NASA Technical Memorandum 86211

Spanish Language Equivalents for a Glossary of Terms Used in the Field of Space Exploration

Gilbert D. Bullock

JULY 1985

NASA

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Gilbert D. Bullock
Goddard Space Flight Center
Greenbelt, Maryland

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National Aeronautics
and Space Administration
Scientific and Technical Information Branch
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NOAA-SESC photograph by Joe Sotorik of Galen McFadyen on Flatiron Mountain near Boulder, Colorado

SPANISH LANGUAGE EQUIVALENTS

FOR

A GLOSSARY OF TERMS USED IN THE FIELD OF SPACE EXPLORATION

GILBERT D. BULLOCK

JUNE 1982

On several occassions, the compiler of this glossary has been asked to address groups of Spanish language visitors to the Goddard Space Flight Center. Each time the preparation of the material to be presented was a difficult chore; first because of a limited technical vocabulary in Spanish and second because of the lack of a general reference.

This glossary evolved more by chance than by plan. Each time a term to be used required some research, it was added to a personal reference list. The list grew until it was apparent that with minimal additional effort, a reasonably comprehensive list could be compiled.

Such a list was completed and reproduced. Copies were sent to a number of potential users and contributors with a request for comment. The response was substantial and enthusiastic. This document is the result of incorporating the comments received. My sincere thanks are extended to all who contributed. I hope the document will prove to be sufficiently useful to be worthy of the effort contributed by so many.

I recognize that this glossary is still far from complete, and that the translations given may not be the ones used in all Spanish speaking countries, however it is a good start. Additional terms and/or translations, as well as any corrections will be gratefully received and incorporated into my list. Someday, if the need warrants it, a new list may be published.

GODDARD SPACE FLIGHT CENTER
Greenbelt, MD 20771

aberration — aberración

1. In Astronomy, the apparent displacement of the position of a celestial body in the direction of the motion of the observer, caused by the combination of the velocity of the observer and the velocity of light.

2. In Optics, a deviation from perfect imagery as, for example, distortion.

ablating material — material de ablación; material ablativo; material de desgaste

A material designed to dissipate heat by vaporizing or melting. Ablating materials are used on the surfaces of some reentry vehicles. Ablating materials absorb heat by increase in temperature and change of chemical or physical state. The heat is carried away from the surface by a loss of mass (liquid or vapor). The departing mass also blocks part of the convection heat transfer to the remaining material.

ablation — ablación

The removal of surface material from a body by vaporization, melting or other process; specifically, the intentional removal from a nosecone or spacecraft during high-speed movement through a planetary atmosphere to provide thermal protection to the underlying structure.

abort — abortar; interrumpir; cancelar

To cancel, or cut short. Failure to complete that which has been started.

absolute altitude — altitud absoluta; altura absoluta

Altitude above the actual surface of a planet or natural satellite, either land or water.

absolute magnitude — magnitud absoluta

The magnitude that a star would appear to have if it were 10 parsecs away from us.

absolute pressure — presión absoluta

In engineering literature, a term used to indicate pressure above the absolute zero value corresponding to empty space, as distinguished from "gage pressure". In vacuum technology "pressure" always corresponds to absolute pressure, therefore the term "absolute pressure" is not required.

absolute temperature — temperatura absoluta

Temperature value relative to absolute zero. See also Kelvin Temperature Scale and Rankine Temperature Scale.

absolute zero — cero absoluto

The theoretical temperature at which all molecular motion ceases. Absolute zero may be interpreted as the temperature at which the volume of a perfect gas vanishes, or more generally, as the temperature of the cold source which would render a Carnot cycle 100% efficient. The value of absolute zero is now estimated to be -273.16° Celsius (Centigrade), -459.69° Farenheit.

absorbtion — absorción

The process in which incident electromagnetic radiation is retained by a substance. A further process always results from absorbtion: that is, the irreversible conversion of the absorbed radiation into some other form of energy within and according to the nature of the absorbing medium. The absorbing medium itself may emit radiation, but only after an energy conversion has occured.

absorbtion line — línea de absorción

A narrow line of missing color in a continuous spectrum, indicating the the source of the continuous spectrum is viewed through a cooler gas. The wavelengths of all the absorbtion lines indicate the types of atoms, ions or molecules in the cooler gas.

acceleration

aceleración

The rate of change of velocity. Decrease in velocity is sometimes called "negative acceleration".

accelerometer

acelerómetro

An instrument which measures acceleration or gravitational forces capable of imparting acceleration. An accelerometer usually uses a concentrated mass (seismic mass) which resists movement because of its inertia. The displacement of the seismic mass relative to its supporting frame or container is used as a measure of the acceleration.

access time

tiempo de acceso

Of a computer, the time required under specific conditions to transfer information to or from storage, including the time required to communicate with the storage location.

acoustic excitation

excitación acústica

Process of inducing vibration in a structure by exposure to sound waves.

acoustic generator

generador acústico

Transducer, which converts electric, mechanical or other form of energy into sound waves.

acoustic velocity

velocidad acústica
velocidad del sonido

The speed of propagation of sound waves. Also called the "Speed of Sound".

acquisition — adquisición, obtención

1. The process of locating the orbit of a satellite or trajectory of a space probe so that the tracking and telemetry data can be gathered.

2. The process of pointing an antenna or telescope so that it is properly oriented to allow gathering of tracking or telemetry data from a satellite or space probe.

actinic — actínico

Pertaining to electromagnetic radiation capable of initiating photochemical reactions, as in photography or the fading of pigments. Because of the particularly strong action of ultraviolet radiation on photochemical processes, the term has come to be almost synonymous with ultraviolet, as in "actinic rays".

active — activo (a)

Operating, not quiet or latent. Capable of transmitting a signal, as "active satellite" rather than "passive".

adiabatic — adiabático

Designating, or pertaining to changes of volume or pressure, as of a gas, not accompanied by gain or loss of heat.

adsorption — adsorción

The adhesion of a thin film of liquid or gas to the surface of a solid substance. The solid does not combine chemically with the adsorbed substance.

advection — advección

The horizontal movement of a mass of air that causes changes in temperature or in the other physical properties of the air.

aerobiology

The study of the distribution of living organisms freely suspended in the atmosphere.

aerobiología

aeroduct

A ramjet type engine designed to scoop up ions and electrons freely available in the outer reaches of the atmosphere or in the atmospheres of other spatial bodies, and by chemical process within the duct of the engine, expel particles derived from the ions and electrons as a propulsive jet stream.

aeroducto

aerodynamic heating

The heating of a body produced by passage of air or other gases over the body, significant chiefly at high speeds, caused by friction and by compression processes.

calentamiento aerodinámico

aerodynamics

The science that deals with motion of air and other gaseous fluids, and with the forces acting on bodies when those bodies move through such fluids, or when such fluids move against or around those bodies.

aerodinámica

aerodynamic vehicle

A device, such as an airplane or glider, capable of flight only within a sensible atmosphere and relying on aerodynamic forces to maintain flight. This term is used when the context calls for distinguishing from "space vehicle".

vehículo aerodinámico

aeroelasticity

The study of the effect of aerodynamic forces on elastic bodies.

aeroelasticidad

aerolite

A meteorite composed principally of stony material.

aerolito
meteorito, meteoro, bólido

aeronomy

1. The study of the upper regions of the atmosphere where physical and chemical reactions due to solar radiation take place.

2. Science dealing with theories of planetary atmospheres

aeronomía

aeropause

A region of indeterminate limits in the upper atmosphere, considered as a boundary or transition region between the denser portion of the atmosphere and space. From a functional point of view, it is considered to be that region in which the atmosphere is so tenuous as to have a negligible, or almost negligible, effect on men and aircraft, and in which the physiological requirements of man become increasingly important in the design of aircraft and auxiliary equipment.

aeropausa

aerospace

Of, or pertaining to, both the Earth's atmosphere and space.

aeroespacio
aeroespacial
aerospacial
espacio aéreo

aerothermodynamic border

An altitude at about 100 miles, above which the atmosphere is so rarified that the motion of an object through it at high speed generates no significant surface heat.

frontera aerotermodinámica
límite aerotermodinámico

aerothermodynamics

The study of the aerodynamic and thermodynamic problems connected with aerodynamic heating.

aerotermodinámica

agravic

Of, or pertaining to, a condition of no gravitation. Also weightlessness or zero "g".

ingrávido
ingravidez

airglow

luminiscencia nocturna
luz zodiacal
resplandor celeste
brillo atmosférico

A faint, steady, glowing of the Earth's atmosphere. The quasi-steady radiant emission from the upper atmosphere as distinguished from the sporadic emission of the aurorae. Historically, "airglow" has refered to visual radiation. Some recent studies use "airglow" to refer to radiation outside the visual range.

air shower

lluvia de particulas cosmicas
lluvia de radiación cosmica
lluvia de rayos cosmicos
lluvia atmosférica
cascada
véase "cascade shower"

A grouping of cosmic ray particles observed in the atmosphere. Primary cosmic rays, slowed down in the atmosphere, emit photons of high energy. Each of those photons produces secondary electrons which generate more photons and the process continues until the available energy is absorbed.

air sounding

sondeo atmosférico

The act of measuring atmospheric phenomena, or determining atmospheric conditions at altitude, especially by means of apparatus carried in balloons or rockets.

albedo

albedo

The ratio of the amount of electromagnetic radiation reflected by a body to the amount incident upon it, commonly expressed as a percentage. The albedo is to be distinguished from the reflectivity, which refers to one specific wavelength. Usage varies somewhat with regard to the exact wavelength interval implied in albedo figures; sometimes just the visible portion of the spectrum is considered; sometimes the totality of wavelengths in the solar spectrum.

alpha particle

partícula alfa

A positively charged particle emitted from the nuclei of certain atoms during radioactive disintegration. The Alpha Particle has an atomic weight of 4 and a positive charge equal in magnitude to 2 electron charges, hence it is essentially a Helium nucleus (Helium atom stripped of its two planetary electrons).

altitude — altura, altitud

The height of a position or object above sea level. The Altitude of a star is the angle from the horizon to the star, measured along a vertical circle.

ambient — ambiente

Specifically, pertaining to the environment about a body but undisturbed, or unaffected, by it.

amplifier — amplificador

A device which under control of a current or a voltage of given characteristics produces a larger current or voltage of similar characteristics.

amplitude modulation — modulación de amplitud, amplitude modulada

Variation in the output of a radio wave in accordance with the amplitude variation of an input signal.

analog computer — computador analógico

A computing device that works on the principal of measuring as distinguished from counting. The input data are made analogous to a measurement continuum such as voltages, which can be manipulated by the computer.

anechoic chamber — cámara anecoica

A test chamber free from echos and reverberations, usually at radio frequencies.

anemometer — anemómetro

An instrument used to measure wind speed

Ångstrom	Ångstrom
A unit of length, used chiefly in expressing short wavelengths. Ten billion angstroms equals one meter (10^{-8} centimeters).	
angular diameter	diametro angular
The angle subtended by the diameter of an object. The angular diameter of the moon, for example, is 0.5°.	
angular momentum	momento angular cantidad de movimiento angular
A measure of the rotation or revolution of a body about an axis or a point. If a ball of mass "m" is twirled on a string of length "l" at an angular velocity of "v", its angular momentum is m.l.v.	
annual motion	movimiento anual movimiento anuo
The motion of the Sun through space in one year.	
anomalistic period	período anomalístico
The interval between two successive perigee passes of a satellite in orbit about a primary. Also called the "perigee to perigee" period, the "orbital period" or simply the "period".	
anomalistic year	año anómalo
The period between successive perihelion passages of Earth, namely 365.2596 mean solar days, increasing at a rate of 0.26 sec.per century. It differs from the sidereal year (365.2422 days) because of the Earth's annual perihelion advance due to the perturbative effects of the other planets.	

anomaly — anomalía

1. In general, a deviation from the norm.

2. In geodesy, a deviation of an observed value from a theoretical value, due to an abnormality in the observed quantity.

3. In celestial mechanics, the angle between the radius vector to an orbiting body from its primary (the focus of the orbital elipse) and the line of apsides of the orbit, measured to the direction of travel, from the point of closest approach to the primary (perifocus). The term defined above is usually called the "true anomaly", v, to distinguish it from the eccentric anomaly, E, which is measured from the center of the orbital elipse; or from the mean anomaly, M, which is what the true anomaly would become if the orbiting body had a uniform angular motion.

antenna gain — ganancia de (la) antena

The ratio of output power to input power of an antenna.

apfocal distance — distancia apfocal; distancia apofocal

In an orbit, the distance between the focus containing the primary body and the apogee.

aphelion — afelio

That orbital point farthest from the Sun, when the Sun is the center of attraction. That point nearest the Sun is called "perihelion". The aphelion of the Earth is 1.520×10^{18} cm from the Sun.

apogee — apogeo

In an orbit about the Earth, the point at which the satellite is farthest from the Earth. The highest altitude reached by a sounding rocket. (See "Orbit" diagram).

apogee height — altura de apogeo

In an orbit, the distance from the intersection of the line of apsides and the surface of the primary body to the apogee.

apogee rocket — cohete de apogeo; impulsor de apogeo

A rocket attached to a satellite or spacecraft, designed to fire when the craft is at apogee, the point furthest from the Earth in orbit. The effect of the apogee rocket is to establish a new orbit farther from the Earth or to allow the craft to escape from the Earth orbit. Also called an apogee kick motor.

apparent magnitude — magnitud aparente

The magnitude that a star appears to have as it is viewed in the sky.

apparent motion — movimiento aparente

The motion that a celestial body appears to have because of a motion of the observer. The sky appears to rotate because of the Earth's rotation.

apsis (plural: apsides) — ápside

In an eccentric orbit, the point at which the satellite is nearest to (lower apsis) or farthest from (higher apsis) from the primary body. The perihelion or aphelion of a planet.

Arago point — punto de Arago

One of the three commonly detectable points along the vertical circle through the Sun at which the degree of polarization of skylight goes to zero; a neutral point. The Arago point, so named for its discoverer, customarily located at about 20° above the antisolar point; but it lies at higher elevations in turbid air. The latter property makes the Arago distance a useful measure of atmospheric turbidity. Measurements of this neutral point are typically more easily carried out than measurements of the Babinet Point and the Brewster Point, both of which lie quite close to the Sun (about 20° above and below the Sun respectively).

argument of perigee — argumento del perigeo

In an Earth orbit, for a given orbital passage, the angle from the ascending node to the location of perigee measured positive to the east. (See "Orbit" diagram).

artificial gravity — gravedad artificial

A simulated gravity established within a space vehicle, as by rotating a cabin about an axis of a spacecraft, the centrifugal force generated being similar to the force of gravity.

ascending node — nodo ascendente; nodo ascendiente; nodo ascenso

In the orbit of an Earth satellite, the point (longitude) at which the satellite crosses the equatorial plane while moving north. (See "Orbit diagram")

association — asociación

A group of stars with a common origin. Associations differ from star clusters because of their low star densities and because they are not stable.

asteroid

One of the many small celestial bodies revolving around the Sun, most of the orbits being between those of Mars and Jupiter. Also called "planetoid" or "minor planet". The term "Minor Planet" is preferred by many astronomers, but "asteroid" continues to be used in astronomical literature.

asteroide

astro

A prefix meaning "star" or "stars" and, by extension, sometimes used as the equivalent of "celestial" as in astronautics.

astro

astroballistics

The study of the phenomena arising out of the motion of a solid through a gas at speeds high enough to cause ablation; for example, the interaction of a meteoroid with the atmosphere

astrobalística

astrobiology

The study of living organisms on celestial bodies, other than Earth.

astrobiología

astrodynamics

The practical application of celestial mechanics, astroballistics, propulsion theory and allied fields to the problems of planning and directing the trajectories of space vehicles

astrodinámica

astronaut

A person who occupies a space borne vehicle.

astronauta

astronautics

1. The art, skill or activity of operating space vehicles.

2. In a broader sense, the science of space flight.

astronáutica

astronomical unit — unidad astronómica

In the astronomical system of measures, a unit of length usually defined as the distance from the Earth to the Sun, approximately 92,960,000 statute miles or 149,598,000 kilometers. It is more precisely defined as the unit of distance in terms of which, in Keppler's Third Law, $n^2a^3 = k^{2(1+m)}$, the semimajor axis, a, of an eliptical orbit must be expressed in order that the numerical value of the Gaussian constant, k, may be exactly 0.01720209895 when the unit of time is the ephemeris day.

astronomy — astronomía

The science that deals with the constitution, distances and motions of celestial bodies and the laws which control them.

astrophysics — astrofísica

That branch of astronomy that deals with the physical and chemical characteristics of the celestial bodies.

atmosphere — atmósfera

The envelope of air surrounding the Earth. Also, the body of gases surrounding or comprising any planet or other celestial body.

atmospheric drag — resistencia atmosférica
fricción atmosférica

The retarding force produced on a satellite by its passage through the gas of the high atmosphere. It drops off exponentially with increasing height and has a small effect on satellites whose perigee is higher than a few hundred kilometers.

atom — átomo

The smallest particle of an element that exhibits the properties of the element.

atomic clock — reloj atómico

A precision clock that depends for its operation on an electrical oscillator (as a quartz crystal) regulated by the natural vibration frequency of an atomic system (as a beam of cesium atoms or ammonia molecules).

atomic number — número atómico

The number of protons in the nucleus of an atom.

atomic weight — peso atómico

The combined number of protons and neutrons in an atomic nucleus.

attenuation — atenuación
pérdida

In physics, any process in which the flux density (or power amplitude, intensity, illuminance etc.) of a "parallel beam" of energy decreases with increasing distance from the energy source. Attenuation is always due to the action of the transmitting medium itself (mainly by absorbtion and scattering). It should not be applied to the divergence of flux due to distance alone, as described by the inverse square law.

attitude — orientación
posición
postura

The position or orientation of an aircraft, spacecraft etc., either in motion, or at rest, as determined by the relationship between its axes and some reference line or plane such as the horizon.

attitude control — control de posición
control de orientación

1. The process of maintaining a vehicle in the desired orientation.

2. The system of components designed to perform the function of maintaining a vehicle in the desired orientation.

atto — atto

A prefix meaning multiplied by 10^{-18}. Symbolized by "a".

Auger shower — lluvia gigante, lluvia extensa, lluvia barrena

A very large cosmic ray shower. Also called an "extensive air shower".

augmentation — aumentación

The apparently larger semi-diameter of a celestial body, when seen against the horizon, as compared to its apparent decrease in size with increased altitude. The term is used principally in reference to the Moon.

aurora — aurora

Light emitted by atoms and ion in the upper atmosphere after they are excited by collisions with energetic particles from the magnetosphere.

aurora australis — aurora austral

The aurora of the southern hemisphere

aurora borealis — aurora boreal

The aurora of northern latitudes. Also called "aurora polaris" and "northern lights".

automatic frequency control (AFC) — control automático de frecuencia

A feedback process in an amplifier which causes a corrective change in frequency whenever a disruptive change in frequency occurs.

automatic gain control (AGC) — control automático de ganancia

A feedback process in an amplifier which causes a corrective change in gain whenever a disruptive change in input occurs.

automatic picture transmission (APT)

transmisión automática de imágenes

A system used on a number of meteorological satellites which permitted small receivers on the ground to obtain local cloud cover pictures directly from space with minimum equipment. Pictures were taken by an on-board camera, scanned and transmitted to the Earth automatically.

autumnal equinox

equinoccio de otoño
equinoccio otoñal

The descending node of the Earth's orbit about the Sun.

axis

eje

1. A straight line about which a body rotates, or around which a plane figure may rotate to produce a solid; a line of symmetry.

2. One of a set of reference lines for certain systems of coordinates.

azimuth

acimut
azimut

1. Horizontal direction or bearing.

2. In navigation, the horizontal direction of a celestial point from a terrestrial point, expressed as the angular distance from a reference direction, usually measured from 000° at the reference direction clockwise through 360°.

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backup

de reserva

1. An item kept available to replace an item which fails to perform satisfactorily.

2. An item under development intended to perform the same general function performed by another item also under development

balance

equilibrio
balance
contrapeso (2)

1. The equilibrium attained by aircraft, rocket or the like when forces and moments are acting upon it so as to produce steady flight, especially without rotation about its axes.

2. A weight that counterbalances something.

ballistics

balística

The science that deals with the motion, behavior and effects of projectiles. The science or art of designing and hurling projectiles so as to achieve a desired performance.

ballistic trajectory

trayectoria balística

The trajectory followed by a body being acted upon only by gravitational forces and the resistance of the medium through which it passes.

Balmer series

serie de Balmer

A series of spectrum lines in Hydrogen, due to atomic transitions which begin or end in the second energy level.

bandwidth

ancho de banda
anchura de banda

The number of hertz expressing the difference between the limiting frequencies of a band.

bar

bar
baria
barr (es)

Unit of pressure equal to 10^6 dyne per cm^2 (10^6 barye), 1000 millibars or 29.53 in. of Hg.

barometer

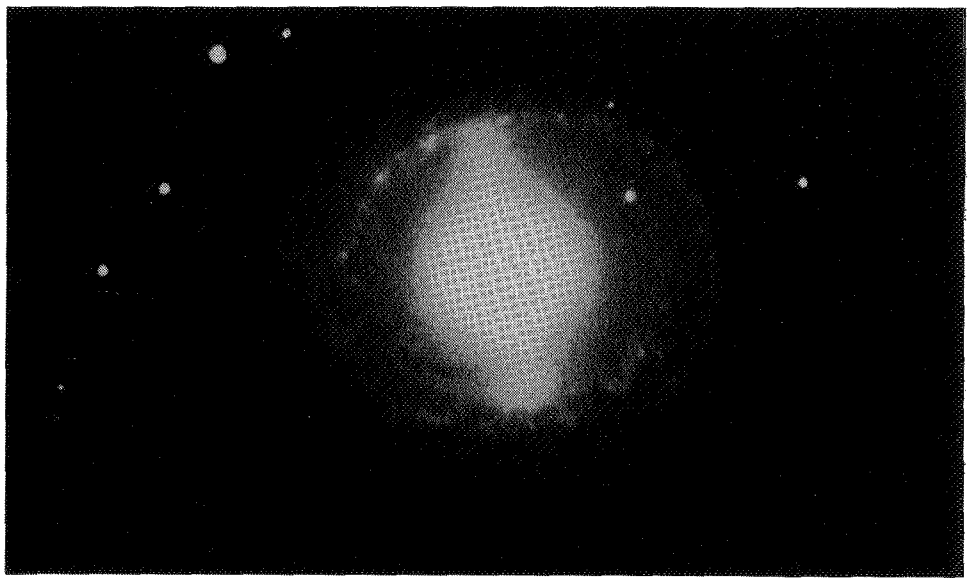
barómetro

An instrument used to measure the pressure exerted by the Earth's atmosphere.

barred spiral galaxy

galaxia espiral rayada
galaxia espiral barrada

A spiral galaxy with a bar running across its nucleus. Spiral arms are attached to the ends of the bar.



barycenter

baricentro

The center of mass of two bodies which are orbiting one another.

barye

microbar
microbaria

A British unit used to denote pressure in the cgs system of physical units. It is equal to one dyne per cm^2 (0.001 millibar). Also microbar.

beacon

A fixed automatic radio transmitter which emits characteristic signals for guidance.

baliza
radiobaliza
haz de referencia
radio-faro

beam

A ray or collection of focused rays of radiated energy.

haz

beamwidth

The angular width of a transmitted signal from an antenna.

ancho de haz

big bang

The explosive event which began the expansion of the universe.

explosión primal del universo
explosión inicial del universo
explosión primordial del universo
la gran explosión

binary notation

A system of positional notation in which the digits are coefficients of powers of the base two. Binary notation employs only two digits, 1 and 0, therefore is used extensively in computers where the "on" and "off" positions of a switch or storage device can represent the two digits.

notación binaria
numeración binaria

binary star

A system of two, or more, stars orbiting one another.

estrella binaria
estrellas binarias

bionics

The study of systems which function after the manner of, or in a manner characteristic of, or resembling, living systems.

biónica

bipropellant

bipropulsante
combustible doble
doble combustible

A rocket propellant consisting of two unmixed or uncombined chemicals (fuel and oxidizer) fed to the combustion chamber separately.

bit

dígito binario
bit
bitio
biteo

(from binary digit), a unit of information.

black body

cuerpo negro

A hypothetical "body" which absorbs all of the electromagnetic radiation striking it; that is, one which neither reflects nor transmits any of the incident radiation. In accordance with Kirchoff's Law, a black body not only absorbs all wavelengths, but emits at all wavelengths and does so with maximum possible intensity for any given temperature.

black hole

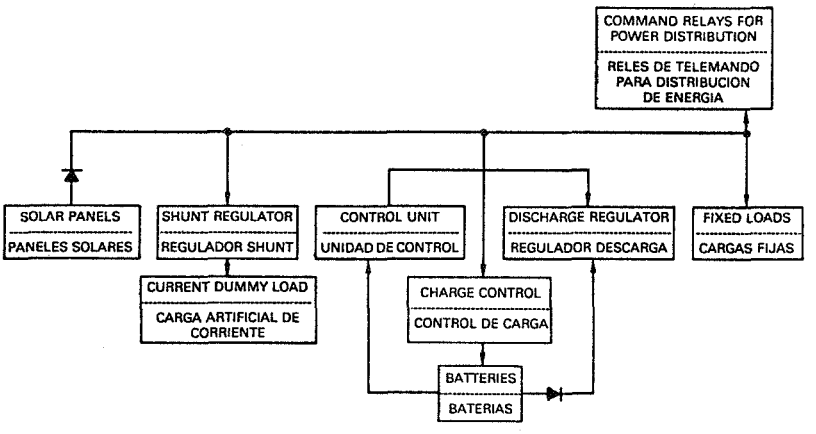
agujero negro
pozo negro

A body with such an intense gravitational field that nothing, including light, can escape from it.

block diagram

diagrama en bloque

A diagram in which labeled squares, rectangles and other arbitrary figures represent the relative positions and functions of the parts of an apparatus.



TYPICAL POWER SYSTEM BLOCK DIAGRAM

DIAGRAM EN BLOQUE DE UNA SISTEMA DE ENERGIA TIPICA

Boltzmann's constant

constante de Boltzmann

The ratio of the universal gas constant to Avogadro's Number; equal to 1.3804×10^{-16} ergs per degree Kelvin. Sometimes called the "gas constant per molecule".

Bond albedo

albedo de Bond

The ratio of the amount of light reflected from a sphere exposed to parallel light to the amount of light incident upon it. Sometimes shortened to "albedo".

booster rocket

cohete de refuerzo
cohete de propulsion auxiliar

An auxiliary part of the propulsion system of a pilotless airplane or missile used to supply a part or all of the thrust during launching and the initial stage of flight. The first stage of a multi-stage rocket.

british thermal unit (btu)

unidad térmica inglesa

The amount of heat required to raise one pound of water at 60° F, 1° F. General usage makes 1 Btu equal 252 calories.

buffer

compensador
dispositivo acumulador de datos
memoria tampón
tampón
acoplador

In computers: 1. An isolating circuit used to avoid reaction of a driven circuit on the corresponding driving circuit.

2. A storage device used to compensate for a difference in rate of flow of information or time of occurence of events when transmitting information from one device to another.

burst

impulso

A single pulse of electomagnetic energy, such as a pulse at radar frequencies, a solar radio burst or a cosmic ray burst.

calorie

Originally, the amount of heat required to raise the temperature of one gram of water through one degree Centigrade (The gram-calorie), but a more precise expression is that a 15° gram-calorie (cal_{15}) is the amount of heat required to raise the temperature of one gram of water from 14.5°C to 15.5°C and is equal to 4.1855 joules.

caloría

capsule

1. A box-like component or unit, often sealed.

2. A small, sealed, pressurized cabin with an internal environment which will support life in a man or animal during extremely high altitude flight, space flight or emergency escape.

cápsula

cascade shower

A group occurence of cosmic rays. Also called an "air shower".

lluvia de partículas cósmicas
lluvia de radiación cósmica
lluvia de rayos cósmicos
cascada
lluvia en cascada
véase "air shower"

Cassegrainian focus

The focus of a reflecting telescope in which a convex secondary mirror reflects light to a focus behind the primary mirror through a hole in the center of the primary.

foco Cassegrain
foco de Cassegrain

cathode ray tube (CRT)

A vacuum tube in which a beam of electrons is caused to move in a prescribed manner and usually caused to impinge upon a phosphorescent screen. e.g. a television picture tube.

tubo de rayos catódicos

cavitation

The turbulent formation of bubbles in a fluid, occuring whenever the static pressure at any point in the fluid becomes less than the fluid vapor pressure.

cavitación

celestial equator — ecuador celeste

The great circle on the celestial field midway between the celestial poles.

celestial mechanics — mecanica celeste

The study of the theory of the motions of celestial bodies under the influence of gravitational fields.

celestial poles — polos celestes

The points on the sky where the Earth's rotation axis, if extended in both directions, intersect the celestial sphere.

celestial sphere — esfera celeste

An imaginary sphere of infinite radius concentric with the Earth, on which all celestial bodies except the Earth are assumed to be projected.

centi — centi

A prefix meaning multiplied by 10^{-2}. Symbolized by "c".

centrifugal force — fuerza centrífuga

The reaction directed away from the center of curvature, of a body moving in a curve, against the force which causes it to move in the curve.

centrifuge — centrifuga
centrifugadera

A mechanical device which applies centrifugal force to a test specimen by means of a long rotating arm to simulate very closely the prolonged acceleration encountered in high performance aircraft, rockets and spacecraft.

centripital force — fuerza centrípeta

The force which, acting upon a body moving in a curved path and directed toward the center of curvature, prevents it from going off on a tangent.

cepheid — cefeida, cefeide

One of several types of pulsating variable stars named after the type star delta Cephi, which was first recognized as a variable star.

checkout — comprobar, comprobación, verificar, ensayar, chequeo

1. A sequence of actions taken to test or examine a thing as to its readiness for incorporation into a new phase of use, or for the performance of its intended function.

2. The sequence of steps taken to familiarize a person with the operation of a piece of equipment.

chemical fuel — combustible químico

A fuel that depends upon an oxidizer for combustion, or for development of thrust, such as liquid or solid rocket fuel or internal combustion engine fuel; distinguished from nuclear fuel.

chemical rocket — cohete químico

A rocket using chemical fuel.

chemosphere — quimisfera, quemasfera

The vaguely defined region of the upper atmosphere in which photochemical reactions take place. It is generally considered to include the stratosphere (or the top thereof) and the mesosphere, and sometimes the lower part of the thermosphere.

chromosphere

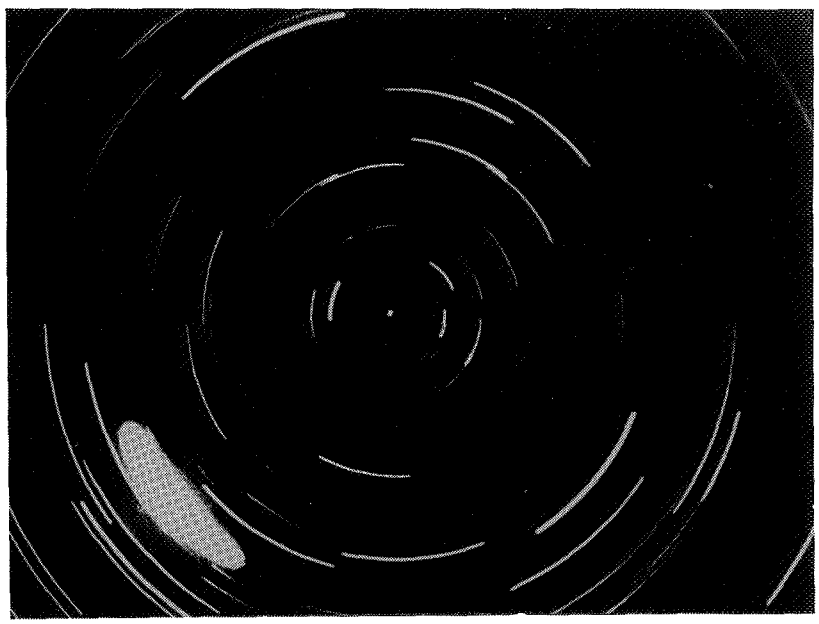
cromosfera

A thin layer of relatively transparent gases above the photosphere of the Sun, where the temperature increases from about 4,500°K to about 100,000°K. It is most easily observed during a total eclipse of the Sun.

circumpolar stars

estrellas circumpolares

Stars near the celestial poles which neither rise nor set as seen by a particular observer. The fraction of the stars which are circumpolar increases with increasing latitude of the observer.



cislunar

cislunar

Of, or pertaining to, phenomena, projects or activity in the space between the Earth and the Moon, or between the Earth and the Moon's orbit.

clepsydra

clepsidra
reloj de agua

A device for measuring time by the regulated flow of water or mercury through a small opening.

closed ecological system

sistema ecológico cerrado

A system that provides for the maintenance of life in an isolated living chamber such as a spacecraft cabin, by means of a cycle wherein exhaled carbon dioxide, urine and other waste matter are converted chemically, or by photosynthesis, into oxygen, water and food.

cluster of galaxies

grupo de galaxias
racimo de galaxias
círculo de galaxias

A gravitationally bound group of galaxies.

color index

índice de color
índice cromatico

An index which indicates the color of a star. It is the difference between the star's magnitude as measured in two different wavelength bands, using either photoelectric detectors and filters or different kinds of photographic emulsions.

color-magnitude diagram

diagrama de color y magnitud

A form of the Hertzsprung-Russell diagram with color as the horizontal scale and magnitude as the vertical scale. Points representing individual stars are plotted on the body of the diagram.

comet

cometa

A solar system body that consists of a tiny, icy nucleus in which is imbedded meteoroid debris. As the ices of the nucleus sublime, the comet forms a coma and eventually, a tail.

command

comando
telecomando
mando
telemando

A signal which initiates or triggers an action in the device which receives the signal.

command and data acquisition station

A ground terminal for control of objects in space.

estación de telemando (o mando) y adquisición de datos

estación de comando y adquisición (u obtención) de datos

computer

A machine for carrying out calculations and for performing specified transformations on information.

ordenador
ordenador de datos
computador, computadora, calculador, calculadora o

conic section (or conic)

A curve formed by the intersection of a plane and a right circular cone (both upper and lower nappes). If the plane does not pass through the vertex of the cone, the conic sections are the ellipse, the parabola and the hyperbola; curves which describe the paths of bodies moving in space. If the plane does pass through the vertex of the cone the figures degenerate to a point, a straight line or two intersecting straight lines.

sección cónica

conjunction

The situation wherein (or the time at which) two celestial bodies have either the same celestial longitude or the same sidereal hour angle. A planet is in superior conjunction if the Sun is between it and the Earth. At inferior conjunction it is between the Sun and the Earth.

conjunción

console

An array of controls and indicators for the monitoring and control of a particular sequence of actions, as in the checkout of a rocket, a countdown or a launch procedure.

consola
pupitre

constellation

Originally, a conspicuous configuration of stars; now a region of the celestial sphere marked by arbitrary boundary lines.

constelación

continuous spectrum

espectro continuo

A spectrum which contains light of all colors.

contravane

contravano
contra álaba
contraala
contrapaleta
contraaspa
contraveleta

A vane that reverses or neutalizes a rotation of a flow. Also called a "countervane".

convection

convección

Bulk motion of matter which carries energy from one place to another.

corona

corona solar

1. The faintly luminous, very hot, outer envelope of the Sun. Also called "solar corona". The corona can be observed at the Earth's surface only during solar eclipse or with a coronagraph.

2. Discharge of electricity which occurs at the surface of a conductor under high voltage. The phenomenon is dependent on ambient pressure of the gas surrounding the conductor.

coronagraph

coronógrafo

A photographic instrument which artificially blocks out the image of the body of the Sun allowing observation of the corona.

cosmic dust

polvo cósmico

Small meteoroids of a particle size similar to dust.

cosmic rays

rayos cósmicos

The aggregate of extremely high energy subatomic particles which bombard the atmosphere from outer space. Cosmic ray primaries seem to be mostly protons, and hydrogen nuclei but also comprise heavier nuclei. The maximum flux of cosmic rays is at an altitude of 20 km.

countdown

cuenta inversa (descendiente)
cuenta atrás
cuenta regresiva

The time period in which a sequence of events is carried out to initiate a launch or a test; the sequence of events itself.

CRT

véase "cathode ray tube"

See "Cathode Ray Tube".

cryogenic temperature

temperatura criogénica

In general, a temperature range below -50°C; more particularly, temperatures within a few degrees of absolute zero.

cybernetics

cibernética

The study of the methods of control and communication common to living organisms and machines.

data reduction

Transformation of observed values into useful, ordered or simplified information.

reducción de datos
procesamiento de datos
reducción de información

deceleration

1. The act, or process of moving, or causing to move, with decreasing speed; the state of so moving.

2. A force causing the decrease in speed. Sometimes called negative acceleration.

desaceleración
aceleración negativa

deci

A prefix meaning multiplied by 10^{-1}. Symbolized by "d".

deci

declination

The angular distance of an object north or south of the celestial equator and measured in degrees along the object's hour circle.

declinación

deep space network (DSN)

A combination of three radar and communications stations in the United States, Australia, and Spain so located as to keep a spacecraft in deep space under observation at all times.

red de espacio profundo
red de espacio lejano

deep space probes

Spacecraft designed for exploring space to the vicinity of the Moon and beyond.

sondas (o sondeos) del espacio profundo
sondas (o sondeos) para el espacio profundo
sondas (o sondeos) para el espacio lejano

deka

A prefix meaning multiplied by 10. Symbolized by "da".

deka

density

The mass of a substance per unit volume.

densidad

descending node

In the orbit of an Earth satellite, the point (longitude) at which the satellite crosses the equatorial plane heading south. (See "Orbit" diagram).

nodo descendente
nodo de descenso
nodo de descendiente
nodo descendiente

diffraction grating

A metal, or plastic, plate containing ruled parallel lines used to bend or spread light waves after the light has passed through a narrow slit in an opaque body.

red de difracción
rejilla de difracción
retícula de difracción

digital computer

A computer which operates on the principle of counting as opposed to measuring.

computadora digital
computadora numérica
(véase "computer")

diplexer

A device which permits an antenna system to be used simultaneously or separately by two transmitters.

diplexor

direct motion

Real or apparent eastward motion. Opposite to retrograde motion.

movimiento directo

display

The graphic presentation of the output data of a device or system.

presentación
presentación visual
presentación gráfica

docking

The process of bringing two spacecraft together while in space.

atraque
amarre
acomplamiento

Doppler shift

corrimiento Doppler
desplazamiento Doppler

The change in frequency with which energy reaches a receiver when the source of radiation or a reflector of the radiation and the receiver are in motion relative to each other.

dose

dosis

A definite quantity of anything carefully measured for remedial effect.

dosimeter

dosímetro

A device, worn by persons working around radioactive material, which indicates the amount (dose) of radiation to which they have been exposed.

drift orbit

órbita en deriva
órbita de deriva
órbita de desplazamiento

A near synchronous orbit with a period slightly more, or less, than a sidereal day.

drogue parachute

paracaídas de frenado
paracaídas de freno
paracaídas de ancla
paracaídas de arrastre

A type of parachute attached to a body used to slow it down. Also called a "deceleration parachute" or "drag parachute".

dynamic pressure

presión dinámica

1. The pressure exerted by a fluid, such as air, by virtue of its motion.

2. The pressure exerted on a body moving through a fluid by virtue of its motion through the fluid.

dyne

dina

That unbalanced force which acting for one second on a body of one gram mass produces a velocity change of 1 cm/sec.

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ebullism — ebullición

The formation of bubbles, with particular reference to water vapor bubbles in biological fluids, caused by reduced ambient pressure.

eccentric — excéntrico

Not having the same center; varying from a circle, as in eccentric orbit.

eccentricity — excentricidad

In an ellipse, the measure of departure from a circle. It is the distance from the center of the ellipse to a focus divided by the length of the semi-major axis.

ecliptic — eclíptica

The apparent annual path of the Sun among the stars; the intersection of the plane of the Earth's orbit with the celestial sphere.

ecological system — sistema ecológico

A habitable environment, either created artificially, such as in a manned space flight vehicle, or occurring naturally, such as the environment on the surface of the Earth, in which man, animals and other organisms can live in mutual relationship to one another.

effective atmosphere — atmósfera efectiva

That part of the atmosphere which effectively influences a particular process or motion, its outer limits varying according to the terms of the process or motion considered.

electromagnetic radiation — radiación electromagnética

Energy propagated through space or through material media in the form of an advancing disturbance in electric and magnetic fields existing in space or in the media.

electron

The subatomic particle that possesses the smallest possible electric charge

electrón

electronic data processing

The use of electronic devices and systems in the processing of data so as to interpret the data and put it in usable form.

tratamiento electrónico de datos
procesamiento electrónico de datos
proceso electrónico de datos

electron volt

A unit of energy equal to 1.601 x 10^{-16} erg. It is defined as the kinetic energy gained by an electron which is accelerated through a potential difference of one volt.

electrón-voltio

electrostatic propulsion

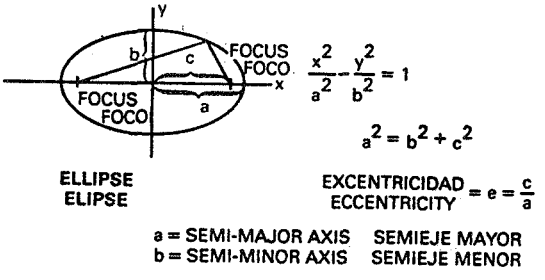
See ionic propulsion

propulsión electrostática
(véase "ionic propulsion")

ellipse

A plane curve constituting the locus of all points the sum of whose distances from two fixed points (foci) is constant. One of the conic sections. (See "Conic Sections" diagram).

elipse



emissivity

emisividad

1. The ratio of the emittance of a given surface at a specified wavelength and emitting temperature to the emittance of an ideal black body at the same wavelength and temperature.

2. Specifically, the ratio of the flux emitted by a clean, perfectly polished surface of the material to the flux that would have been emitted by a black body at the same temperature.

environment

ambiente
entorno

An external condition or the sum of such conditions, in which a piece of equipment operates.

ephemeris (plural, efemerides)

efemérides

A periodic publication giving a tabular statement of the position of the celestial bodies at specific intervals of time.

ephemeris mean day

día promedio de efemérides
día medio de efemérides
día medio efemérico

A day, in ephemeris time.

ephemeris time

tiempo de efemérides
tiempo efemérico

A uniform measure of time defined by the orbital motions of the planets and determined by correcting mean solar time for the irregularities arising from variations in the rate of rotation of the Earth.

epoch

época

A particular instant for which certain data are valid. In an Earth orbit, the time of perigee passage in a particular orbital revolution.

equinoxes

The two points on the celestial sphere where the celestial equator intersects with the ecliptic.

equinoccios

escape velocity

The radial speed which a particle or larger body must attain in order to escape from the gravitational field of a planet or a star. The escape velocity from the Earth is approximately 7 miles per sec.; from Mars, 3.2 miles per sec. and from the Sun, 390 miles per sec.

velocidad de escape
velocidad de liberación

exobiology

The study of living organisms existing on celestial bodies other than the Earth.

exobiología

exosphere

The outermost, or topmost, portion of the atmosphere.

exosfera

extraterrestrial

From outside the Earth.

extraterrestre

extraterrestrial radiation

In general, solar radiation received outside the Earth's atmosphere.

radiación extraterrestre

extra-vehicular activity (EVA)

Activity outside a vehicle in space.

actividad fuera del vehículo
actividad extravehicular

extremely high frequency

Radio frequencies in the band from 30 gigahertz to 300 gigahertz.

frecuencia extremadamente alta
extrema alta frecuencia

Faraday rotation — rotación de Faraday

The rotation produced in a beam of polarized electromagnetic radiation traversing certain isotropic media along the lines of force of a magnetic field.

femto — femto

A prefix meaning multiplied by 10^{-15}. Symbolized by "f".

flare (solar flare) — erupción solar, fulguración, llamarada

A bright eruption from the Sun's chromosphere.

flux — flujo

1. The rate of flow of some quantity, often used in reference to the flow of some form of energy.

2. In nuclear physics, generally the number of radioactive particles per unit volume times their mean velocity.

flux density — densidad de flujo

The flux of any quantity, ususally a form of energy, through a unit area of specified surface.

Fraunhofer lines — líneas de Fraunhofer

Dark lines crossing the continuous spectrum of the Sun or similar source. The lines result from the absorbtion of some wavelengths by layers of cooler gases.

free fall — caída libre, ingravidez

1. The fall or drop of a body, such as a rocket not guided, nor under thrust, and not retarded by a parachute or other braking device.

2. Weightlessness

frequency

frecuencia

The number of waves leaving or arriving at a position per unit time.

frequency modulation

modulación de frecuencia
frecuencia modulada

Variation in the output of a radio wave in accordance with the frequency variation of an input signal.

g or G

An acceleration equal to the acceleration of gravity., approximately 32.2 ft/sec/sec at sea level. Used as a unit of stress measurement for bodies undergoing acceleration.

g o G

Gamma ray

A quantum of electromagnetic radiation emitted by a nucleus, each such photon being emitted as the result of a quantum transition between two energy levels of the nucleus. Gamma rays have energies usually between 10 kev and 10 mev, with correspondingly short wavelengths and high frequencies.

rayo Gamma

geiger counter

An instrument for detecting and counting ionizing particles, used to determine the degree of radioactivity.

contador Geiger

geo

A prefix meaning "Earth" as in "geography" or "geophysics". Most writers use the established terms such as "geology" to refer to the same concepts on other bodies of the solar system, as "the geology of Mars", rather than "Areology" or "Marsology".

geo

geocentric

Relative to the Earth as a center; measured from the center of the Earth.

geocéntrico

geodesy

The science of measuring the size and shape of the Earth, and of surveying areas so large that the Earth's curvature must be considered.

geodesia

geodetic

Pertaining to geodesy, the science which deals with the size and shape of the Earth.

geodésico (a)

geoid — geoide

The equipotential surface which most nearly approximates the mean sea level of the Earth.

geology — geología

The science which deals with the structure of the Earth, its successive physical changes and the causes producing those changes.

geomagnetism — geomagnetismo

The magnetic phenomena, collectively considered, exhibited by the Earth and its atmosphere; by extension, the magnetic phenomena in interplanetary space.

geophysics — geofísica

The physics of the Earth and its environment, i.e., earth, air and (by extension), space. Classically, geophysics is concerned with the nature of physical occurences at and below the surface of the Earth including, therefore, geology, oceanography, geodesy, seismology, hydrology, etc.. The trend is to extend the scope of geophysics to include meteorology, geomagnetism, astrophysics, and other sciences concerned with the physical nature of the universe.

geopotential — geopotencial

The potential energy of a unit mass relative to sea level, numerically equal to the work that would be done in lifting the unit mass from sea level to the height at which the mass is located; commonly expressed in terms of dynamic height or geopotential height.

geoprobe — geosonda; sonda geológica; sonda terrestre

A rocket vehicle designed to explore space near the Earth at a distance of more than 4,000 miles from the Earth's surface. Rocket vehicles operating lower than 4,000 miles are termed "sounding rockets".

geostationary satellite

satélite geostacionario
satélite sincronico
satélite geoestacionario

A special case of the geosynchronous satellite in which the orbit inclination is zero.

geosynchronous satellite

satélite geosíncrono
satélite sincrónico

An equatorial east-west satellite orbiting the Earth at an altitude of 22,300 statute miles, at which altitude it makes one revolution in 24 hours, synchronous with the Earth's rotation.

giga

giga (mil millones)

A prefix meaning multiplied by one billion (10^9 in U.S. units). Symbolized by "G".

gimbal

balancín
cardán

1. A device with two mutually perpendicular and intersecting axes or rotation, thus having free angular movement in two directions, on which an engine or other device may be mounted.

2. In a gyro, a support which provides the spin axis with a degree of freedom.

gnomon

gnomon
saeta

A vertical shaft or stick used to determine the altitude of the Sun or the position of a place by noting the length of a shadow. Used as part of a sundial.

gravitation

gravitación
aceleración de gravedad
aceleracion de la gravedad
gravedad

The acceleration produced by the mutual attraction of two masses, directed along the line joining their centers of mass, and of magnitude inversely proportional to the square of the distance between the centers of mass.

gravity

The force imparted by the Earth to a mass on, or close to, the Earth. Since the Earth is rotating, the force observed as gravity is the resultant of the force of gravitation and the centrifugal force arising from the rotation.

gravedad
fuerza de gravedad
fuerza de la gravedad
fuerza gravitateria

Greenwich mean time

Time measured at the Greenwich observatory in England, on the zero meridian of longitude.

hora media de Greenwich
hora de Greenwich
tiempo medio de Greenwich

ground station

A terminal, usually part of a network of terminals, for communicating with space vehicles.

estación de tierra
estación terrena
estación terrestre

ground support system

Any ground-based equipment used for launch, checkout or in-flight support of a space project.

sistema de apoyo terrestre
sistema terrestre de apoyo

ground support equipment

Equipment used to implement a ground support system.

equipo de apoyo terrestre
equipo terrestre de apoyo

guidance

The process of directing the movements of an aeronautical vehicle or space vehicle, with particular reference to the selection of the flight path.

guiado
guiamiento
teledirección
guia
dirección
control de guia

guided missile

A missile whose course toward a target may be altered during passage.

proyectil (o misil) guiado
proyectil (o misil) teleguiado
proyectil (o misil) teledirigido

gyro compass

A compass which keeps its direction by using the principals of the gyroscope.

brújula giróscopica
girocompás

gyroscope (gyro)

giroscopio
girόscopo

A device which utilizes the angular momentum of a spinning rotor to sense angular motion of its base about one or two axes at right angles to the spin axis.

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Hall effect

efecto Hall

The electrical polarization of a horizontal conducting sheet of limited extent, when that sheet moves laterally through a magnetic field having a component perpendicular to the sheet. The Hall Effect is important in determining the behavior of the electrical currents generated by winds in the lower ionosphere, since these winds advect the ionized layers across the Earth's magnetic field and produce a complex electrical current system in the ionosphere. This current system in turn produces small changes in the Earth's magnetic field as measured at the surface.

halo orbit

órbita halo
órbita aureola
órbita en aureola

A special type orbit about an equilibrium point between two celestial bodies in a plane generally normal to the line of sight between the two bodies.

hardness

dureza

A measure of the penetrating power of X-rays and other high energy radiation. Radiation which will penetrate a 10 centimeter thickness of lead is considered "hard radiation".

hardware

equipo
elementos físicos

Items made of metal such as tools, fittings parts of machines etc..

heat exchanger

intercambiador de calor
permutador térmico
cambiador de calor

A device for transferring heat from one fluid to another without intermixing the fluids.

heat pipe

tubo isotérmico
conductor de calor

A device which transfers heat from one point to another without moving parts. It functions by changes of state between liquid and gas.

heat shield — pantalla térmica; blindage térmico

Any device which protects something from heat.

heat sink — sumidero térmico; disipador de calor

1. In thermodynamic theory, a means by which heat is stored, or is dissipated or transferred from the system under consideration.

2. A place toward which the heat moves in a system.

3. A material capable of absorbing heat; a device utilizing such material and used as a thermal protection device on a spacecraft or reentry vehicle.

4. In nuclear propulsion, any thermodynamic device, such as a radiator or condenser, that is designed to absorb the excess heat energy of the working fluid.

hecto — hecto

A prefix meaning multiplied by 10^2. Symbolized by "h".

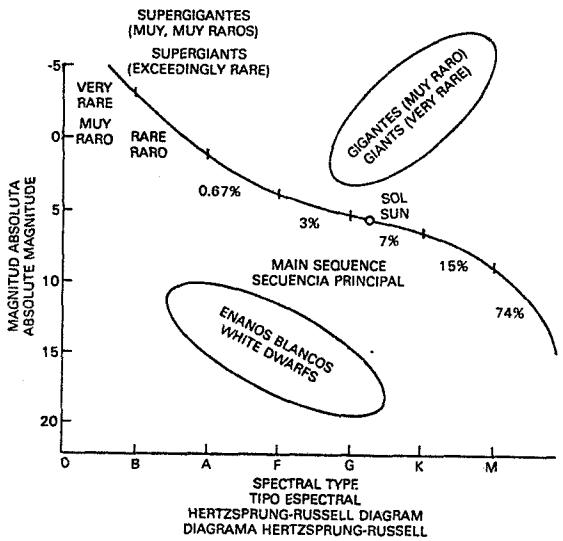
heliocentric — heliocéntrico (a)

Relative to the Sun as the central body.

Hertzsprung-Russell diagram

diagrama de Hertzsprung-Russell

A plot of absolute magnitude vs. spectral type for stars of which these quantities are known.



heterosphere

heterosfera

The upper portion of a two part division of the atmosphere according to the general homogeneity of atmospheric composition. The layer above the homosphere. The heterosphere is characterized by variation in composition and mean molecular weight of constituent gases. The heterosphere starts at 80 to 100 km above the Earth and therefore closely coincides with the ionosphere and the thermosphere.

high frequency

alta frecuencia

Radio frequencies in the band from 3 megahertz to 30 megahertz.

homosphere — homósfera

The lower portion of a two part division of the atmosphere according to general homogeniety of atmospheric composition. Opposed to the heterosphere. The region in which there is no gross change in atmospheric composition. That is all the atmosphere from the Earth's surface to about 80 or 100 km. The homosphere is about equivalent to the neutrosphere and includes the troposphere, stratosphere, mesosphere and ozonosphere and at least part of the chemosphere.

hour angle — ángulo horario

The angle between the celestial meridian and the hour circle of a celestial object.

hour circle — círculo horario; círculo de declinación

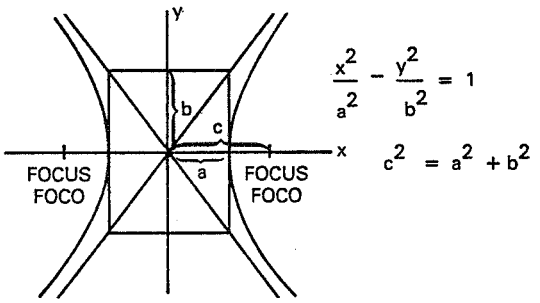
One of 12 equidistant great circles through the poles of the celestial sphere, perpendicular to the equator.

hydrology — hidrología

That branch of physical geography that deals with the water of the Earth, with special reference to its properties, phenomena and distribution.

hyperbola — hipérbola

The locus of all points whose difference of undirected distances from two fixed points is a constant. One of the conic sections.



HYPERBOLA
HIPERBOLA

hypergolic — hipergólico (a)

Self igniting upon contact of components without a spark or other external aid. Used especially of a fluid rocket propellant.

hypersonic — hipersónico (a)

Pertaining to speeds of Mach 5 or greater.

hypersonic flow — flujo hipersónico

In aerodynamics, flow of a fluid over a body at hypersonic speeds and in which the shock waves start at a finite distance from the surface of the body.

hypothesis — hipótesis

An idea or supposition proposed as an explanation for the occurrence of phenomena.

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inclination — inclinación

The northern hemisphere angle between a satellite's orbital plane and the equatorial plane of the primary. (See "Orbit" diagram).

inertia — inercia

The tendency of an object, as a result of its mass, to continue in motion at a constant speed or to remain at rest.

inertial guidance — guiado por inercia; guiado inercial; guía inercial

Guidance by means of acceleration measured and integrated within the craft.

inertial reference — referencia inercial

A stable, space fixed, configuration of gyroscopes used as a reference for an inertial guidance system.

infrared — infrarrojo

Electromagnetic radiation in the wavelength interval from the red end of the visible spectrum (0.8 microns) on the lower limit, to microwaves used in Radar (sometimes arbitrarily set at 1,000 microns) on the upper limit.

ion — ión

An atom or molecularly bound group of atoms having an electric charge. Sometimes also a free electron or charged subatomic particle.

ionic propulsion (electrostatic propulsion) — propulsión iónica

Rocket propulsion using the thrust furnished by electrically accelerated ions. Much higher specific impulses and exhaust velocities may be obtained than with chemical propulsion, but current laboratory versions of the ionic rocket are capable of furnishing a total thrust of only a few ounces.

ionosphere — ionósfera

The atmospheric shell characterized by a high ion density. Its base is at about 70 or 80 kilometers and it extends to an indefinite height.

isotropic — isótropo; isotrópico

In general, pertaining to a state in which a quantity, or spatial derivative thereof, is independent of direction.

isotropic antenna — antena isótropica

An antenna which radiates, or receives, in all directions; which has no directional characteristics.

jerk — sacudida

A vector that specifies the time rate of change of acceleration. The third derivative of displacement with respect to time.

jet propulsion — propulsión a chorro; propulsión a reacción

Propulsion of a body by means of a jet of fluid as in the motion given to a toy balloon when the air it contains is allowed to escape through the neck.

Joule's constant — constante de Joule

The ratio between heat and work units from experiments based on the first law of thermodynamics, it equals 4.186×10^7 ergs/cal.

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Kelvin temperature scale

escala de temperatura de Kelvin
escala de temperatura absoluta

An absolute temperature scale independent of the thermometric properties of the working substance. On this scale the difference between two temperatures T_1 and T_2 is proportional to the heat converted into mechanical work by a Carnot engine operating between the isotherms and adiabats through T_1 and T_2. For convenience, the Kelvin degree is identified with the Celsius degree. The ice point of water in the Kelvin scale is 273.17°.

Kepler's laws

leyes de Kepler

The three empirical laws describing the motions of planets in their orbits, discovered by Johannes Kepler. The laws are:

1. The orbits of the planets are elipses, with the Sun at a common focus.

2. As a planet moves in its orbit, the line joining the Sun and the planet sweeps over equal areas in equal intervals of time.

3. The squares of the periods of revolution of any two planets are proportional to the cubes of their mean distances from the Sun.

kev (kilo electron volt)

kev (kilo electro voltio)

A unit of energy, one thousand electron volts.

kilo

kilo

A prefix meaning multiplied by one thousand (10^3). Symbolized by "k".

kinematics

cinemática

The science which looks at the motion of bodies without regard to the forces producing that motion.

kinetic energy

energía cinética

Energy that is associated with motion.

Kirchhoff's law

ley de Kirchhoff

The radiation law which states that at a given temperature the ratio of the emissivity to the absorptivity for a given wavelength is the same for all bodies and is equal to the emissivity of an ideal black body at that temperature and wavelength.

Loosely put, this states that good absorbers of a given wavelength are also good emitters of that wavelength. It is essential to note that Kirchhoff's Law relates absorbtion and emission at the same wavelength and the same temperature.

laser A device for producing light by emission of energy stored in a molecular or atomic system when stimulated by an input signal. (From: Light Amplification by Stimulated Emission of Radiation).	laser
latitude The angle from the Earth's equator to a point on Earth as measured along a terrestrial meridian.	latitud
launch The action of releasing or catapulting a self-propelled object from a ramp, rack or other device.	lanzamiento
launch site The physical location and all the necessary equipment to launch a space vehicle.	campo de lanzamiento instalación de lanzamiento sitio de lanzamiento
launch vehicle Any device which propels and guides a spacecraft into orbit about the Earth or into a trajectory to another celestial body.	vehículo de lanzamiento lanzador vehículo lanzador
launch window (launch aperture) That period of time during which a vehicle must be launched in order to achieve its objective.	aperatura de lanzamiento ventana de lanzamiento periódo o duración de lanzamiento

libration

libración

1. An oscillation in the apparent aspect of a secondary body (as a planet or a satellite) as seen from the primary object around which it revolves, caused by the inclination of its axis of rotation, variations in its orbital speed, real irregularities in its rotation or changes in the observers position on the primary body.

2. The action or state of vibrating as a balance does before resting in equilibrium.

3. The state of being poised in equilibrium.

libration point

punto de libración

That point between two bodies at which the gravitational forces are equal. The point at which a third body placed there would experience no accelerative force toward either body.

life support system

sistema de apoyo de vida
sistema de soporte de vida
sistema mantenedor de vida
sistema de mantenamiente de vida

That portion of a space vehicle's operational system which provides the necessary environment for the survival of a human.

light year

año luz

The distance light travels in one year at the rate of 186,000 miles per second (300,000 kilometers per second). Equal to 5.9×10^{12} miles.

line of apsides

línea de los ápsides

In an orbit, the line joining the apfocus to the perifocus and passing through the center of the primary body. (See "Orbit" diagram).

line of nodes

línea de los nodos

The intersection between the plane of the ecliptic (equatorial plane in an Earth orbit) and the plane of the orbit of the satellite. (See "Orbit" diagram).

local vertical

vertical local

At a particular point, the direction in which the force of gravity acts.

longitude

longitud

The angle between the prime meridian and the terrestrial meridian through a point on Earth.

longitudinal axis

eje longitudinal

The fore-and-aft line through the center of gravity of a craft.

low frequency

baja frecuencia

Radio frequencies in the band from 30 kilohertz to 300 kilohertz.

luminosity

luminosidad

The brightness of a star, or other object, as compared to a standard such as the Sun.

lunar atmospheric tide

marea atmosférica lunar

An atmospheric tide due to the gravitational attraction of the Moon. The only detectable components are the 12-lunar-hour or semidiurnal, as in the oceanic tides, and two others of very nearly the same period. The amplitude of this atmospheric tide is so small that it is detected only by careful statistical analysis of a long record, being about 0.06 mb in the tropics and 0.02 mb in the middle latitudes.

lunar eclipse

eclipse lunar

The partial or total obscuration of the Sun's light on the Moon, caused by the passage of the Earth between the Sun and the Moon.

Lyman-Alpha radiation

radiación Lyman-Alfa

Ultraviolet radiation at a wavelength of 1216 A emitted by atomic Hydrogen when it passes from its first excited electronic state to its ground state. Light of this short wavelength is not transmitted by the Earth's atmosphere and a study of it was made only after the advent of rocket and satellite astronomy. The Lyman alpha transition is the longest wavelength member of the Lyman series of atomic Hydrogen, and is the strongest ultraviolet line emitted by the Sun.

M-region — región M

Name given to a region of activity on the Sun when the nature of that activity cannot be determined.

Mach number — número de Mach

1. A number expressing the ratio of a speed of a body, or a point on a body, with respect to the surrounding air or other fluid, or the speed of a flow to the speed of sound in the medium.

2. The speed represented by the above number.

magnetic field — campo magnético

The region near a magnet or an electric current where magnetic force is exerted and in which a magnetic needle will take a fixed position.

magnetic storm — tormenta magnética

A worldwide disturbance of the Earth's magnetic field.

magnetic tape — cinta magnética
cinta magnetofónica

A ribbon of thin paper or plastic coated with fine magnetic iron oxide powder mixed with a binder used in magnetic recording.

magnetohydrodynamics — magnetohidrodinámica

The study of the interaction that exists between a magnetic field and an electrically conducting fluid.

magnetometer — magnetómetro

A instrument used in the study of geomagnetism for measuring any magnetic element.

magnetosphere — magnetósfera

That part of the Earth's atmosphere which exists by virtue of the Earth's magnetic field. The magnetosphere consists of trapped particles, mainly electrons and protons, which spiral about the magnetic lines of force from pole to pole and gradually precess eastward or westward depending on their charge.

magnitude — magnitud

Relative brightness of a celestial body. The smaller the magnitude number, the brighter the body.

main sequence — secuencia principal

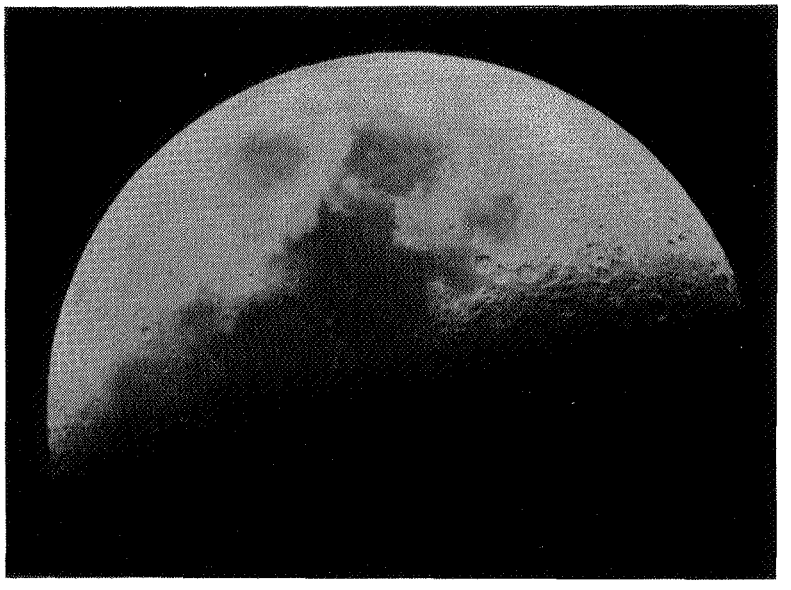
The diagonal line on the Hertzsprung-Russell diagram onto which most stars fall.

manometer — manómetro

An instrument for measuring pressure of gases and vapors both above and below atmospheric pressure.

maria (singular, mare)

The large, darker areas, of generally circular outline on the lunar surface.



mária
mares lunares
(singular, mar)

maser

An amplifier utilizing the principle of microwave amplification by stimulated emission of radiation. Emission of energy stored in a molecular or atomic system by a microwave power supply is stimulated by the input signal.

maser

mass

The measure of the amount of matter in a body.

masa

mass-energy equivalence

The equivalence of a quantity of mass m and a quantity of energy E. The two are related by the equation $E=mc^2$, where c is the speed of light.

equivalencia energía-masa

mean anomaly

anomalía media

In an orbit, the angle at the focus containing the primary body, between the direction to the perifocus and where the satellite would be if the orbit was circular and of a radius equal to the semi-major axis of the actual ellipse at the real elapsed time from the perifocus (i.e. traveling at uniform velocity.) (See "Orbit" diagram)

mean free path

recorrido libre medio

Of any particle, the average distance that a particle travels between successive collisions with other particles in the ensemble.

mean solar day

día solar medio
día solar promedio

The interval between successive transits of the lower meridian by the mean Sun, containing 86,400 seconds of mean solar time.

medium frequency

media frecuencia

Radio frequencies in the band from 300 kilohertz to 3 megahertz.

mega

mega

A prefix meaning multiplied by one million(10^6). Symbolized by "M".

memory

memoria

The component of a computer, control system, guidance system, instrumented satellite or the like designed to provide ready access to data or instructions previously recorded as to make them bear upon an immediate problem.

meridian

meridiano

A great circle which passes through the zenith directly north and south.

mesopause — mesopausa

The transition zone between the mesosphere and the exosphere.

mesosphere — mesosfera

1. The atmospheric shell between about 20 kms and about 70 to 80 kms, extending from the top of the stratosphere to the upper temperature minimum (mesopause). It is characterized by a broad temperature maximum (the mesopeak) at about 50 km, except possibly over the winter polar regions.

2. The atmospheric shell between the top of the ionosphere and the bottom of the exosphere.

meteor — meteoro

In particular, the light phenomenon which results from the entry into the Earth's atmosphere of a solid particle from space. More generally, any physical object or phenomenon associated with such an event.

meteoric — meteórico (a)

Of, or pertaining to, meteors or meteoroids.

meteorite — meteorito

A meteoroid which has reached the surface of the Earth without being completely vaporized.

meteoroid — meteoroide

A solid object moving in interplanetary space of a size considerably smaller than an asteroid and considerably larger than an atom or a molecule.

meteorology

The science that deals with the atmospheric phenomena; as variations in temperature, moisture etc., applied to weather forecasting.

meteorología

mev (mega electron volts)

A unit of energy, one million electron volts.

mev (mega electón voltios)

micro

1. A prefix meaning divided by one million (10^{-6}). Symbolized by "u".

2. A prefix meaning very small as in "micrometeorite."

micro

microbar

The unit of pressure in the centimeter-gram-second (c.g.s.) system of units. It is equal to one dyne per square centimeter.

microbar

micrometeorite

A very small meteorite or meteoric particle with a diameter, in general, less than one millimeter.

micrometeorito

micron

One millionth of a meter.

micrón

microwave

A very short electromagnetic wave. Usually between one and one hundred centimeters in length.

microonda

microwave region

región de microondas

Commonly, that region of the radio spectrum between approximately 1000 megahertz and 300,000 megahertz. Corresponding wavelengths are 30 cm to 1 mm. The limits of the microwave region are not clearly defined but, in general, it is considered to be the region in which radar operates.

milli

milli

A prefix meaning multiplied by 10^{-3}. Symbolized by "m".

millibar

milibar
milibara

A unit of pressure equal to 1,000 dynes per square centimeter, or 1/1,000 of a bar. The millibar is used as a unit of measure of atmospheric pressure, a standard atmosphere being equal to 1,013.25 millibars or 29.92 inches of mercury.

missile

proyectil
misil

Any object thrown, dropped, fired, launched or otherwise projected with the purpose of striking a target.

mission

misión

A program of study, designing and building hardware, testing, launch and operation of a spacecraft to accomplish a given set of objectives.

modulation

modulación

Specifically, vibration of some characteristic of a radio wave, called the "carrier wave", in accordance with the instantaneous values of another wave, called the "modulating wave".

module — módulo

1. A self contained unit of a launch vehicle or spacecraft which serves as a building block for the overall structure. The module is usually designated by its primary function as "command module", "lunar landing module", etc..

2. A one-package assembly of functionally associated electronic parts; usually a plug-in unit

molecule — molécula

An aggregate of two or more atoms of a substance that exist as a unit.

moment — momento

A tendency to cause rotation about a point or axis, as of a control surface about its hinge or of an airplane about its center of gravity; the measure of this tendency, equal to the product of the force and the perpendicular distance between the point or axis of rotation and the line of action of the force.

moment of inertia — momento de inercia

Of a body about an axis is the summation of mr^2, where m is the mass of a particle of the body and r is its distance from the axis.

momentum — cantidad de movimiento

Linear momentum is the quantity obtained by multiplying the mass of a body by its linear speed. Angular momentum is the quantity obtained by multiplying the moment of inertia of a body by its angular speed.

momentum wheel — volante de inercia
rueda de inercia

The central mechanical energy storage device in some three-axis stabilized satellites.

nadir

nadir

The point on the celestial sphere directly opposite the zenith. i.e., the point directly under the observer's feet.

nano

nano

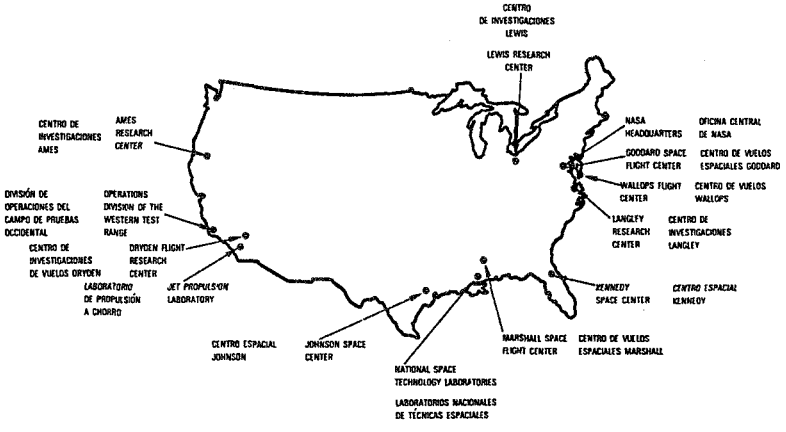
A prefix meaning divided by one billion (10^9 in U.S. measurements). Symbolized by "n".

National Aeronautics and Space Administration (NASA)

Administración Nacional de Aeronautica y del Espacio

Dirección Nacional de Aeronautica y del Espacio

The United States government agency charged with the responsibility for the exploration of the peaceful uses of space.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LEWIS RESEARCH CENTER
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LABORATORIOS NACIONALES DE TÉCNICAS ESPACIALES

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
ADMINISTRACION NACIONAL DE AERONAUTICA Y DEL ESPACIO

natural frequency

frecuencia natural

The frequency of free oscillation of a system. For a multiple degree-of-freedom system, the natural frequencies are the frequencies of the normal modes of vibration.

nautical mile

milla náutica

A unit of distance used principally in navigation. For practical navigation it is usually considered the length of one minute of any great circle of the Earth, the meridian being the great circle most frequently used. By international agreement the nautical mile is exactly 1852 meters.

nebula — nebulosa

A cloud of interstellar matter.

network — red

A system of ground terminals and interconnecting communication lines.

neutron — neutrón

A subatomic particle with no electric charge, and with a mass slightly more than the mass of the proton. Protons and neutrons comprise atomic nuclei; and are both classed as nucleons.

neutron star — estrella de neutrónes

A star whose interior is an unbelievably dense neutron gas.

neutrosphere — neutrosfera

The atmospheric shell from the Earth's surface upward in which the atmospheric constituents are for the most part un-ionized, i.e. electrically neutral. The region of transition between the neutrosphere and the ionosphere is somewhere between 70 and 90 km, depending on latitude and season.

Newton's laws of motion — leyes del movimiento de Newton

A set of three fundamental postulates forming the basis of the mechanics of rigid bodies. In simple statements, these are:

1. If a body is not acted upon by an external force, its momentum remains constant.

2. The rate of change of momentum of a body is proportional to the force acting upon it and is in the direction of that force.

3. For every action there is an equal and opposite reaction.

noctilucent clouds — nubes noctilucentes

Rarely observed clouds of unknown composition which occur at great height. Photometric measurements have located them between 75 and 90 kms. They resemble thin cirrus, but usually have a bluish or silverish color, although sometimes orange to red, standing out against a dark night sky.

node — nodo

1. One of the two points of intersection of the orbit of a planet with the ecliptic, or of the orbit of a satellite with the plane of the orbit of its primary.

2. A point, line or surface in a standing wave where some characteristic of the wave has essentially zero amplitude.

3. A terminal of any branch of a network or a terminal common to two or more branches of a network.

noise — ruido

1. Any undesired sound. By extension, any unwanted disturbance within a useful frequency band.

2. An erratic, intermittent or statistically random oscillation.

nonrelativistic particles

Particles which posses a velocity small with respect to that of light.

partículas no relativistas
partículas no relativisticas

nonthermal radiation

Electromagnetic radiation emitted by accelerated charged particles not in thermal equilibrium.

radiación atérmica
radiación no térmica

nova

A star which suddenly becomes many times brighter than previously, and then gradually fades.

nova

nuclear radiation

The emission of neutrons and other particles from an atomic nucleus as a result of nuclear fission or nuclear fusion.

radiación nuclear

nuclear reactor

An apparatus in which nuclear fission may be sustained in a self supporting chain reaction.

reactor nuclear

nucleosynthesis

The production of the various elements occuring in nature out of Hydrogen nuclei or protons.

nucleosíntesis

nucleus

The positively charged core of an atom with which is associated practically the whole mass of the atom, but only a minute part of its volume. A nucleus is composed of one or more protons and an approximately equal number of neutrons.

núcleo

nutation

nutación

1. The oscillation of the axis of a rotating body.

2. In astronomy, the small oscillatory movement of the Earth's axis, with a period of about 19 years, which affects by small amounts the apparent position of the stars and the planets.

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occultation

The disappearance of a body behind another body of apparent larger size.

ocultación

oceanography

That branch of geography dealing with the oceans.

oceanografía

octave

The interval between any two tones, one of which has twice the vibration frequency of the other.

octava

orbit

1. The path of a body or particle about another body, under the influence of a gravitational or other force.

2. To go around the Earth or other body in an orbit.

órbita
orbitar

orbital elements

A set of parameters defining the orbit of a satellite about the Earth. These are:

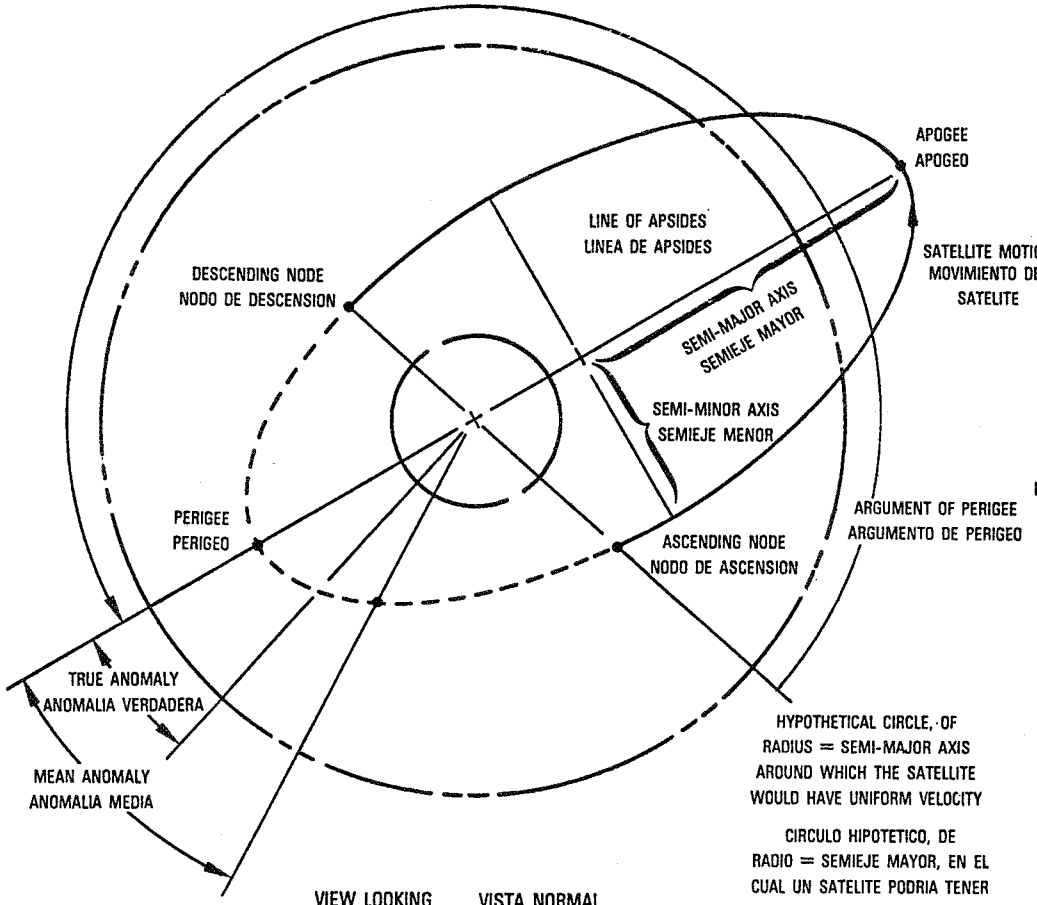
Semi-Major Axis	Semieje mayor
Eccentricity	Excentrícidad
Inclination	Inclinación
Mean Anomaly	Anomalía media
Argument of Perigee	Argumento del perigeo
Right Ascension of the Ascending Node	Ascensión recta del nodo de ascención o nodo ascendente
Anomalistic Period	Periodo anomalístico
Apogee	Apogeo
Perigee	Perigeo

elementos orbitales
elementos de la órbita
componentes de la órbita

orbital period

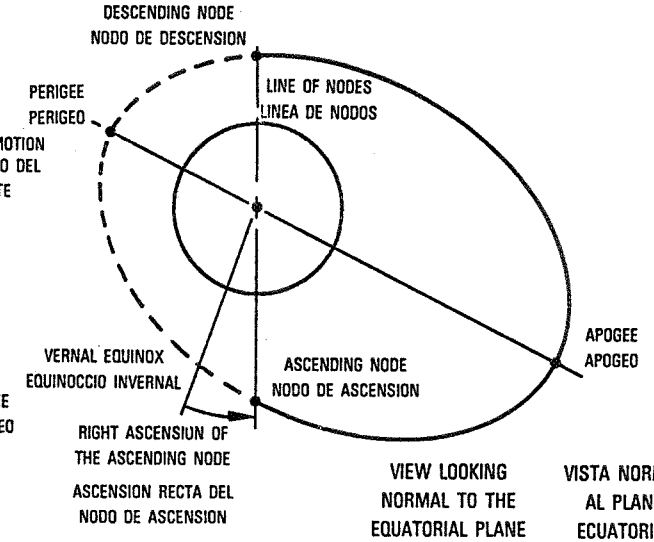
The interval between successive perigee passes of a satellite.

período de la órbita
período orbital



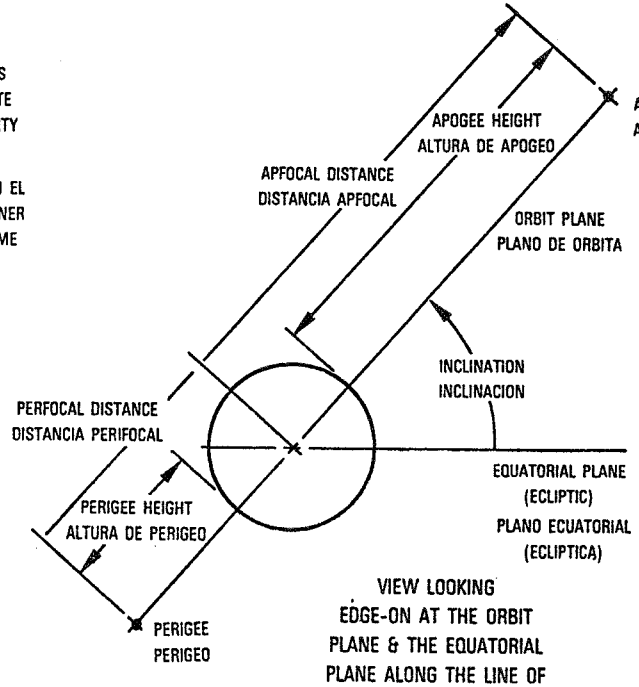
VIEW LOOKING NORMAL TO THE ORBIT PLANE

VISTA NORMAL AL PLANO DE LA ORBITA



VIEW LOOKING NORMAL TO THE EQUATORIAL PLANE

VISTA NORMAL AL PLANO ECUATORIAL



VIEW LOOKING EDGE-ON AT THE ORBIT PLANE & THE EQUATORIAL PLANE ALONG THE LINE OF NODES

VISTA DEL PLANO DE LA ORBITA Y DEL PLANO ECUATORIAL POR LA LINEA DE NODOS

PARAMETERS OF AN EARTH SATELLITE ORBIT

PARAMETROS DE UN SATELITE EN ORBITA TERRESTRE

orbital velocity

velocidad en la órbita
velocidad orbital

1. The average velocity at which an Earth satellite or other orbiting body travels around its primary.

2. The velocity of such a body at any given point in its orbit.

order of magnitude

órden de magnitud

A factor of ten. Two quantities of the same kind which differ by less than a factor of ten are said to be of the same order of magnitude.

outgassing

desgaseado
desgaseamiento

The evolution of gas from a solid in a vacuum.

ozone

ozono

The molecule O_3.

ozonosphere

ozonósfera

The general stratum of the upper atmosphere in which there is an appreciable ozone concentration and in which ozone plays an important part in the radiative balance of the atmosphere. This region lies roughly between 10 and 50 km, with maximum ozone concentration at about 20 to 25 km.

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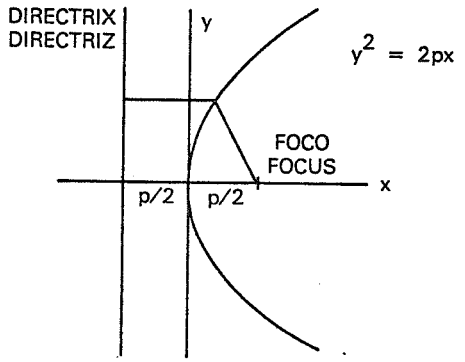
parabola

parábola

The locus of all points whose undirected distances from a fixed point and a fixed line are equal. One of the conic sections. (See "Conic Sections" diagram).



PARABOLA

paraglider

paracaídas planeador

A flexible-winged, kite-like vehicle designed for use in recovery systems for launch vehicles or as a reentry vehicle.

parameter

parámetro

1. In general, any quantity of a problem that is not an independent variable. More specifically, the term is often used to distinguish, from dependent variables,quantities which may be more or less arbitrarily assigned values for purposes of the problem at hand.

2. In statistical terminology, any numerical constant derived from a population or a probability distribution. Specifically, it is an arbitrary constant in the mathematical expression of a probability distribution.

parking orbit

órbita de estacionamiento
órbita estacionaria
órbita de aparcamiento

A preliminary orbit into which a spacecraft is placed prior to its final mission orbit.

parsec

parsec

A unit of distance commonly used to measure interstellar dimensions. It is the distance at which an astronomical unit, the mean distance from the Earth to the Sun, would subtend an angle of one second of arc. A parsec equals 3.26 light years.

passive

pasivo (a)

Reflecting a signal without transmitting, as "Echo is a passive satellite." Contrasted with "active."

payload

carga útil

1. Originally, the revenue-producing portion of an aircraft's load. e.g. passengers, cargo, mail etc..

2. By extension, that which an aircraft or rocket carries over and above that which is necessary for the operation of the vehicle in flight.

penumbra

penumbra
(véase "umbra")

1. The partially lighted part of a shadow.

2. The partial shadow which occurs during an eclipse in the region between the total shadow and the full light where light rays are only partially cut off by the intervening body.

3. The grey, or light colored region which surrounds the dark central portion of a sunspot.

See "Umbra" diagram

peri

peri

A prefix meaning near, as in "perigee."

perifocal distance — distancia perifocal

In an orbit, the distance between the focus containing the primary body and the perigee.

perigee — perigeo

That orbital point nearest the Earth, when the Earth is the center of attraction. (See "Orbit" diagram).

perigee height — altura del perigeo

In an orbit, the distance from the intersection of the line of apsides and the surface of the primary body to the perigee. (See "Orbit" diagram).

perihelion — perihelio

That orbital point nearest the Sun, when the Sun is the center of attraction.

period — período

The interval needed to complete a cycle. Often used in reference to the time of a complete orbit. Also called "Orbital Period" or "Anomalistic Period".

perturbation — perturbación

Specifically a disturbance in the regular motion of a celestial body as a result of a force additional to those which cause the regular motion.

phase modulation — modulación de fase

Variation in the output of a radio wave in accordance with the phase variation of an input signal.

photocell (photoelectric cell)

célula fotoeléctrica
fotocélula

A device utilizing photoconductivity so that an increase in illumination causes decrease in electrical resistance.

photoconductivity

fotoconductividad

The electrical conductivity of a substance as affected by exposure to light or other radiation.

photodissociation

fotodisociación

The removal of one or more atoms from a molecule by the absorbtion of a quantum of electromagnetic or photon energy.

photoionization

fotoionización

The removal of one or more electrons from an atom or a molecule by the absorbtion of a photon.

photon

fotón

According to the quantum theory of radiation, the elementary quantity, or "quantum," of radiant energy. It is regarded as a discrete quantity having a mass equal to hv/c^2, where h is Planck's constant, v is the frequency of radiation and c is the speed of light in a vacuum.

photon engine

motor fotónico

A projected type reaction engine in which thrust would be obtained from a stream of electromagnetic radiation.

photosphere

fotósfera
fotoesfera

The intensly bright portion of the Sun visible to the naked eye.

pico

A prefix meaning divided by one million million (10^{-12} in U.S. measurement system.) Symbolized by "p".

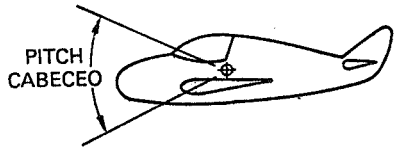
pico

pitch

1. Motion about a lateral axis which causes the front to be up or down with respect to the rear.

2. The amount of that movement, i.e. the angle of pitch.

cabeceo



pitch axis

The line through the center of gravity of a body about which the pitch motion occurs.

eje de cabeceo

plages

Clouds of Calcium or Hydrogen vapor that show up as bright patches on the visible surface of the Sun.

placas
playas
fáculas
maculas

Planck's constant

A constant, usually designated h of dimensions mass x length^2 x time^{-1} equal to 6.6252 x 10^{-27} erg sec. It scales the energy of electromagnetic radiation of frequency v such that the radiation appears only in quanta nhv, n being an integer.

constante de Planck

Planck's law

An expression for the variation of monochromatic emittance (emissive power) as a function of wavelength of black-body radiation at a given temperature.

ley de Planck

planet

A celestial body of the solar system, revolving around the Sun in a nearly circular orbit, or a similar body revolving around a star.

planeta

plasma

An electrically conductive gas comprised of neutral particles, ionized particles and free electrons but which, taken as a whole, is electrically neutral. A plasma is further characterized by relatively large intermolecular distances, large amounts of energy stored in the internal energy levels of the particles and by the presence of a plasma sheath at all boundaries of the plasma. Plasmas are sometimes refered to as the fourth state of matter.

plasma

plasma engine

A reaction engine using magnetically accelerated plasma as propellant.

motor de plasma

plasma jet

A magnetohydrodynamic rocket engine in which the ejection of plama generates thrust.

reactor de plasma

motor a reacción de plasma

plasma sheath — pantalla de plasma

1. The boundary layer of charged particles between a plasma and its surrounding walls, electrodes or other plasmas. The sheath is generated by the interaction of the plasma with the boundary material. Current flow may be in only one direction across the sheath (single sheath), in both directions across the sheath (double sheath) or, when the plasma is immersed in a magnetic field, may flow along the sheath surface at right angles to the magnetic field (magnetic current sheath.)

2. An envelope of ionized gas that surrounds a body moving through an atmosphere at hypersonic velocities.

The plasma sheath affects transmission, reception and diffraction of radio waves, thus is important in operational problems of spacecraft, especially during reentry.

polarimeter — polarímetro

An instrument for measuring the properties of polarized electromagnetic radiation.

polarization — polarización

The state of electromagnetic radiation when transverse vibrations take place in some regular manner, e.g. all in one plane, in a circle, in an ellipse or in some other definite curve.

potential energy — energía potencial

The energy of a particle or a body dependent upon its position.

precession — precesión

Change in the direction of the axis of rotation of a spinning body, as a gyroscope, when acted upon by a torque.

precession of the equinoxes — precesión de los equinoccios

The conical motion of the Earth's axis about the normal to the plane of the ecliptic, caused by the attractive force of the Sun, Moon and other planets on the equatorial protuberance of the Earth.

pressure — presión

A force exerted on a body so as to tend to alter its shape or decrease its volume.

pressurized — presurizado
a presión

Containing air, or other gas, at a pressure that is higher than the pressure outside the container.

primary body — cuerpo primario

The spatial body about which a satellite or other body orbits, is escaping from or toward which it is falling.

primary cosmic rays — rayos cósmicos primarios

High energy particles originating outside the Earth's atmosphere.

principal investigator — investigador principal

The individual charged with the overall responsibility for a scientific experiment on a NASA mission.

probability — probabilidad

The chance that a prescibed event will occur, represented as a number greater than zero but less than one. The probability of an impossible event is zero and that of an inevitable event is one.

probable error

error probable

In statistics, that value e_p for which there exists an even probability (0.5) that the actual error exceeds e_p, The probable error e_p is 0.6745 times the standard deviation (alpha). The probable error is not "probable" in the normal sense of the word.

probe

sonda

Any device inserted in an environment for the purpose of obtaining information about the environment. Specifically, an instrumented vehicle moving through the upper atmosphere or space, or landing upon another celestial body in order to obtain information about the specific environment.

prominence

prominencia

A filament like protuberance from the chromosphere of the Sun.

propellant

propulsor
agente de propulsión
propulsivo (a)

Something that propells such as the fuel and oxidizer which combine chemically to provide rocket propulsion.

proton

A positively-charged subatomic particle having a mass slightly less than that of a neutron but about 1847 times greater than that of an electron. Protons and neutrons comprise atomic nuclei and are both classed as "nucleons."

protón

prototype

Spacecraft, or element thereof, which is undergoing or has passed environmental and other tests which qualify design for fabrication of flight units, or elements thereof.

prototipo

pulse amplitude modulation

Variation in the output of a radio wave in accordance with the pulse amplitude variation of an input signal.

modulación de amplitud por impulsos (o pulsos)

modulación de impulsos (o pulsos) en amplitud

pulse code modulation

Variation in the output of a radio wave in accordance with the variation of a coded pulse input signal.

modulación de impulsos (o pulsos) cifrados (o codificados)

modulación por impulsos (o pulsos) codificados (o cifrados)

quantization — cuantificación

The process of converting from continuous values of information to a finite number of discrete values.

quantum theory — teoría cuántica

The theory that all electromagnetic radiation is emitted and absorbed in "quanta" each of magnitude hv, h being Planck's constant and v the frequency of the radiation.

quasar — cuasar
quasar

A radio emitting object which looks like a star in the sky. The red shift of the spectral lines of a quasar indicate that it is at a great distance.

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radar astronomy

astronomía por radar

Detection of high frequency radio waves reflected off nearby members of the solar system utilizing powerful radar transmitters, large antennas and very sensitive receivers.

radiation pressure

presión de radiación
presión de la radiación

The pressure exerted upon any body when electromagnetic radiation is incident upon it.

radiation shield

blindaje contra la radiación
apantallamiento
pantalla contra la radiación

1. A device used on certain types of instruments to prevent unwanted radiation from biasing the measurement of a quantity.

2. A device used to protect bodies from the harmful effects of nuclear radiation, cosmic radiation or the like.

radiator

radiador

1. Any source of radiant energy, especially electromagnetic radiation.

2. A device that dissipates heat from something, not necessarily by radiation only.

radio astronomy

radioastronomía

The observance of radio signals from outer space. The development of sensitive electronic receivers and the construction of large antennas has allowed the detection of radio waves from astronomical sources which pass through the atmosphere in the "radio window' from a wavelength of a few millimeters to a few tens of meters.

radio meteor

radiometeoro

A meteor detected by the reflection of a radio signal from the meteor trail of relatively high ion density.

radiometer — radiómetro

A device used to measure some property of electromagnetic radiation.

radiosonde — radiosonda

A balloon-borne instrument for the simultaneous measurement and transmission of meteorological data at high altitudes.

radio telescope — radiotelescopio

A device for receiving, amplifying and measuring the intensity of radio waves originating outside the Earth's atmosphere.

Rankine temperature scale — escala de temperatura de Rankine

An absolute temperature scale independent of the thermometric properties of the working substance. On this scale, the difference between two temperatures T_1 and T_2 is proportional to the heat converted into mechanical work by a Carnot engine operating between the isotherms and adiabats through T_1 and T_2. For convenience, the Rankine degree is identified with the Farenheit degree. The ice point of water in the Rankine scale is 491.69°.

rarefaction — rarefacción enrrarecimiento

The half of a sound wave in which the air, or other medium, is expanded to less than its normal density.

rarefied gas dynamics — dinámica de los gases enrarecidos

The study of the phenomenoa related to the molecular or noncontinum nature of gas flow at low densities.

Rayleigh-Jeans law

ley de Rayleigh-Jeans

An approximation of Planck's law forblack-body radiation valid in the limit of long wavelengths. It is almost always of sufficient accuracy in the radio and microwave areas of the spectrum.

reaction control system

sistema de control de (o por) reacción

A system of controlling the attitude of a craft when outside the atmosphere by using jets of gas in lieu of aerodynamic control surfaces.

reaction engine

motor de reacción

An engine which develops thrust by its reaction to ejection of a substance from it; specifically, such an engine that ejects a jet or stream of gases created by the burning of fuel within the engine.

real time

tiempo real
tiempo actual
tiempo en directo
tiempo presente

Time in which the recording of events or reporting of events is simultaneous with the event.

receiver

receptor

An apparatus for the reception of signals transmitted by electromagnetic propagation, usually radio signals.

recombination

recombinación

The process by which a positive and a negative ion join to form a neutral molecule or other neutral particle.

red giant

gigante roja

A large red star which has completed its main sequence lifetime and has expanded to hundreds of times its initial size, and the surface of which has cooled.

red shift

corrimiento hacia el rojo
desplazamiento hacia el rojo

In astronomy, the displacement of the observed spectral lines toward the longer wavelengths of the red end of the spectrum. The "red shift" in the spectrum of distant galaxies has been interpreted as evidence that the universe is expanding.

reentry

reentrada
reingreso

1. The event occuring when a spacecraft or other object comes back into the sensible atmosphere after being rocketed to an altitude above the sensible atmosphere.

2. The action involved in this event.

reentry vehicle

vehículo de reentrada
vehículo de reingreso

A space vehicle designed to return with its payload through the sensible atmosphere.

refraction

refracción

The bending of a beam of light as it passes from one medium into another in which the index of refraction is different.

regenerative cooling

enfriamiento regenerador

The cooling of a part of an engine by the propellant being delivered to the combustion chamber; specifically, the cooling of a rocket engine by circulating the fuel or the oxidizer or both around the part to be cooled.

reimbursable mission

misión reembolsable
misión reembolsada
misión a reembolso

A mission for which support costs are reimbursed to NASA by non-NASA users. e.g. foreign governments, other U.S. agencies and private corporations.

relative humidity — humedad relativa

The ratio of the actual vapor pressure of the air to the saturation vapor pressure for that temperature.

relativistic particles — partículas relativisticas

In general, pertaining to particles moving at speeds which are an appreciable fraction of the speed of light.

relativity — relatividad

A theory formulated by Albert Einstein and leading to the assertion of the equivalence of mass and energy ($E=mc^2$) and of the increase in the mass of a body with increased velocity. The theory further maintains that all statements of physical laws take exactly the same form in all systems of reference in whatever way such systems may be moving relative to one another: this theory involving as a consequence the theories that no material body can have a velocity greater than that of light and that gravitation should be described not as a force inherent in matter, but as the effect of the alteration in the properties of space, the so-called change in the curvature of space caused by the presence of matter.

resolving power — poder de resolución

The ability of a telescope or other lens system to separate objects which are close together.

resonance — resonancia

1. The phenomenon of amplification of a free wave or oscillation of a system by a forced wave or oscillation of exactly equal period.

2. Of a system in forced oscillation, the condition which exists when any change, however small, in the frequency of the excitation causes a decrease in the response of the system.

resonance frequency

frecuencia de resonancia

A frequency at which resonance exists.

retrograde motion

movimiento de retroceso
movimiento retrógrado

Real or apparent westward motion. Opposite of direct motion. An object in a retrograde orbit travels in a direction opposite to the rotation or revolution of the central body from which it is observed.

retrorocket

retrocohete

A rocket fitted on or in a spacecraft, satellite or the like to produce thrust opposed to the forward motion.

right ascension

ascensión recta
ascenso recto

The angle as measured along the celestial equator from the vernal equinox eastward to the hour circle of the celestial object.

right ascension of the ascending node

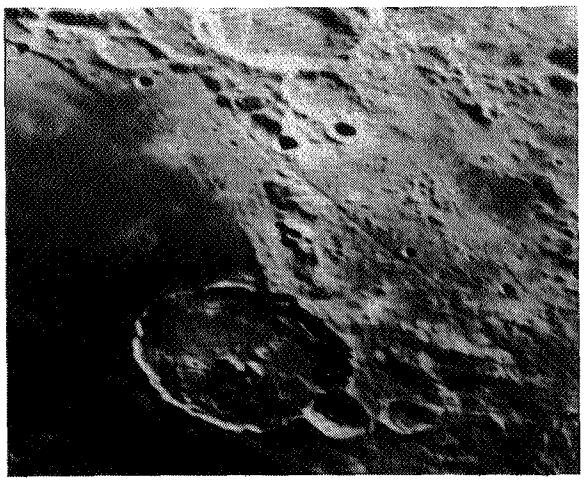
ascensión recta del nodo ascendente
ascenso recto del nodo de ascenso

In an Earth orbit, the longitudinal angle of the ascending node for a given orbital passage, measured from the Vernal Equinox. (See "Orbit" diagram).

rills

riachuelos
arroyuelos
grietes lunares
surcos

Narrow, sharply defined features that extend across the surfaces of the lunar maria. They may be cracks or wrinkles in the lava beds.



rocket

cohete

1. A projectile, pyrotechnic device or vehicle propelled by a rocket engine.

2. The rocket engine itself.

rocket engine

motor cohete
impulsor

A reaction engine that contains within itself, or carries along with itself, all the substances necessary for its operation or for the consumption or combustion of its fuel, not requiring intake of any outside substance and hence capable of operation in outer space.

roentgen

roentgen

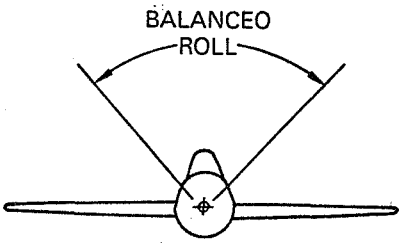
That amount of X or gamma radiation sufficient to produce ions carrying one electrostatic unit of charge in one cm^3 of air.

roll

balanceo
rolido

1. That rotational or oscillatory motion of an aircraft or similar body which takes place about a longitudinal axis through the body.

2. the amount of that movement, i.e. the angle of roll.



roll axis

eje de balanceo
eje de rolido

The line through the center of gravity of a body about which the roll motion occurs.

satellite — satélite

1. An attendant body that revolves about another body, the primary; especially in the solar system, a secondary body, or moon, that revolves about a planet.

2. A man made object that revolves about a spatial body.

scale height — altura de escala

A measure of the relationship between density and temperature at any point in an atmosphere; the thickness of a homogeneous atmosphere which would give the observed temperature or pressure.

secondary cosmic rays — rayos cósmicos secundarios

Secondary emission in the atmosphere stimulated by primary cosmic rays.

seeing — visibilidad

A blanket term used by astronomers for the disturbing effects produced by the atmosphere upon the image quality of an observed astronomical body.

seismology — sismología
seismología

The scientific study of earthquakes, their causes and results.

selenographic — selenográfico

1. Of, or pertaining to, the physical geography of the moon.

2. Specifically, refering to positions on the Moon measured in latitude from the Moon's equator and in longitude measured from a reference meridian.

semi-major axis — semieje mayor

In an ellipse the major axis is the longer axis of symmetry. The semi-major axis is one half the major axis and is the measure of the size of the ellipse. In the elliptical orbit of a celestial body it is the mean, or average, distance of the body from its primary. (See "Orbit" diagram).

semi-minor axis — semieje menor

The shorter axis of symetry in an ellipse. (See "Orbit" diagram).

sensible atmosphere — atmósfera sensible

That part of the atmosphere that offers resistance to a body passing through it.

shadow band — banda de sombra

One of a series of dark, narrow, parallel bands seen to rush swiftly across the landscape just before or after totality in a solar eclipse. Probably due to optical effects of the Earth's atmosphere.

shock waves — ondas de choque

The phenomenon in compressible fluid flow where a positive pressure disturbance propagates and eventually steepens into a shock front.

shooting star — estrella fugaz

A small celestial body heated to incandescence by friction on entering the earth's atmosphere.

shooting star rain — lluvia de estrellas fugaces

A large number of shooting stars occuring during a short period of time.

shroud

The nosecone of a space vehicle when it is used only as a shield for passage through the atmosphere from launch to orbit.

guarda
carenado
recubrimiento

shuttle

See Space Shuttle

véase "space shuttle"

sidereal

Of, or pertaining to, the stars.

sideral
sidéreo (a)

sidereal day

The time or interval between two consecutive meridian crossings of a star.

día sideral
día sidéreo

soft radiation

Radiation which is absorbed by an absorber equivalent to 10 centimeters of lead or less.

radiación blanda

software

As opposed to hardware. The nonphysical part of computer operation. The information supplied to the computer to establish functional programs.

soporte lógico
elementos de programación

solar array

A network of solar cells interconnected so as to provide a desired power capabilty to a spacecraft.

conjunto de células solares
formación de células solares

solar atmospheric tide

Vertical motion of the atmosphere due to thermal or gravitational action of the Sun.

marea atmosférica solar

solar cell

A photovoltaic device that converts sunlight directly into electric energy.

célula solar

solar constant — constante solar

The rate at which solar radiation is received on a surface perpendicular to the incident radiation and at the Earth's mean distance from the Sun, but outside the Earth's atmosphere.

solar cycle — ciclo de las manchas solares; ciclo solar

The observed fluctuation from maximum to minimum of the incidence of sunspots, and the activity of solar flares and prominences, with a mean period of 11.2 years.

solar eclipse — eclipse solar

The partial, total or annular obscuration of the Sun's light on the Earth by the passage of the Moon between the Earth and the Sun.

solar flare — erupción solar; fulguración solar; llamarada solar

Sudden local increase in the intensity of the light of Hydrogen on the Sun.

solar panel — panel solar

An array of solar cells mounted on a structure and positioned on a spacecraft so as to provide electric power to the spacecraft subsystems.

solar physics — física solar

A branch of astrophysics which deals with the composition of the sun.

solar plasma - see solar wind — véase "solar wind"

solar radiation — radiación solar

The total electromagnetic radiation emitted by the Sun,

solar system

The group of planets and their satellites, and other celestial objects which are under the gravitational influence of the Sun.

sistema solar

solar wind

A stream of protons constantly moving outward from the Sun. Synonymous with solar plasma.

viento solar
plasma solar
viento de plasma
véase "solar wind"

solstice

One of the two points on the ecliptic at which its distance from the celestial equator is greatest and which is reached by the Sun each year about June 22nd and December 22nd.

solsticio

sonic

1. Aerodynamics: Of or pertaining to the speed of sound.

2. Of or pertaining to sound.

sónico (a)

sonic boom

A noise caused by the shock wave that emanates from an object traveling in the atmosphere at, or above, the speed of sound.

estampido sónico

sonic speed

The speed of sound. By extension, the speed of a body traveling at Mach 1.

velocidad sonica
velocidad de sonido

sounding

1. In geophysics, any penetration of the natural environment for scientific observation.

2. In meteorology, same as an upper air observation.

sonda
sondeo
de sondeo

sounding rocket

cohete sonda
cohete de sondeo

A rocket designed to explore the atmosphere within 4,000 miles of the Earth's surface.

space

espacio

1. Specifically, the part of the universe lying outside the limits of the Earth's atmosphere.

2. More generally, the volume in which all spatial bodies, including the Earth, move.

spacecraft

vehículo espacial
nave espacial

Devices, manned or unmanned, which are designed to be placed into an orbit about the Earth or into a trajectory toward another celestial body.

space flight

vuelo espacial

Flight beyond the earth's atmosphere.

space probes

sondas espaciales
dispositivos investigadores de espacio

Devices launched into space for the purpose of obtaining information about the environment it experiences.

space reddening

rubor espacial
enrojecimiento del espacio
arrebolado del espacio
enrojecimiento espacial

The observed reddening , or absorbtion of shorter wavelengths, of the light from distant celestial bodies caused by the scattering by small particles in interstellar space

space shuttle

lanzadera espacial
transbordador espacial
(bus, taxi, ferry) espacial

A reusable space vehicle designed and built to put men in space to perform useful work (e.g. launch, repair or recover unmanned satellites) and to return them to the Earth.

specific heat — calor específico

The amount of heat required to raise the temperature of a unit mass of a substance on degree, as compared with the same amount of water at the same temperature.

specific impulse — impulso específico

A performance parameter of a rocket propellant, expressed in seconds, and equal to thrust (in pounds) divided by weight flow rate (in pounds per second).

spectral analysis — análisis espectral

Analysis of a spectrum.

spectrograph — espectrógrafo

A device for dispersing radiation into a spectrum and photographing, or mapping, the spectrum. A recording spectroscope.

spectrometer — espectrómetro

An instrument which measures some characteristic, such as intensity, of electromagnetic radiation as a function of wavelength or frequency.

spectroscope — espectroscopio

An instrument for decomposing a beam of electromagnetic energy into its constituents and examining the image so formed.

spectrum — espectro

1. In physics, any series of energies arranged according to wavelength (or frequency); specifically, the series of images produced when a beam of radiant energy, such as sunlight, is dispersed by a prism or a reflecting grating.

2. Short for electromagnetic spectrum used for a specific purpose as the "radio spectrum."

speed of sound — velocidad del sonido

The speed of propagation of sound waves, also called "accoustic velocity". or "sonic velocity".

spin axis — eje de rotación; eje de giro; eje giratorio

The line about which a body rotates (spins).

stabilization — estabilización

The process of producing or maintaining the equilibrium of a floating body by means of some balancing device.

standard atmosphere — atmósfera típica; atmósfera estándar; atmósfera standard

1. A hypothetical vertical distribution of atmospheric temperature, pressure and density which, by agreement, is taken to be representative of the atmosphere for purposes of pressure altimeter calibrations, aircraft performance calculations, aircraft and rocket design, ballistic tables etc..

2. A standard unit of atmospheric pressure exerted by a 760 mm column of mercury at gravity (980.665 cm/sec^2) at temperature 0°C.

star transit — tránsito estelar; paso por el meridiano

The passage of a star across the celestial meridian.

stationary orbit — órbita estacionaria

An orbit in which an equatorial satellite revolves about the primary at the same angular velocity as the primary rotates on its axis. From the primary, the satellite thus appears to be stationary above a point on the primary.

stationary satellite — satélite estacionario

A special case of the synchronous satellite in which the orbit inclination is zero.

Stefan-Boltzmann law

ley de Stefan-Boltzman

One of the radiation laws which states that the amount of energy radiated per unit time from a unit surface area of an ideal black body is proportional to the fourth power of the absolute temperature of the black body.

stratosphere

estratósfera

The region of the atmosphere lying on the average between 12 and 60 kilometers; it has a temperature which is either constant or increases with altitude, and is therefore stable against convection.

study mission

estudio de la misión
misión de estudio
fase de estudio

That phase of a program planning effort in which mission objectives and design constraints are defined

subatomic particle

partícula subatómica

A component of an atom, such as an electron, a proton, a meson etc..

subsonic

subsónico (a)

In aerodynamics, dealing with speeds less than the speed of sound.

subsystem

subsistema

A functioning entity within a major system. Unmanned satellites usually consist of at least the following subsystems; structure, thermal control, atitude control, propulsion, power, communications, data handling, telemetry and command.

sudden ionospheric disturbance

perturbación ionosférica repentina

A complex combination of sudden changes in the condition of the ionosphere, and the effects of those changes.

summer solstice

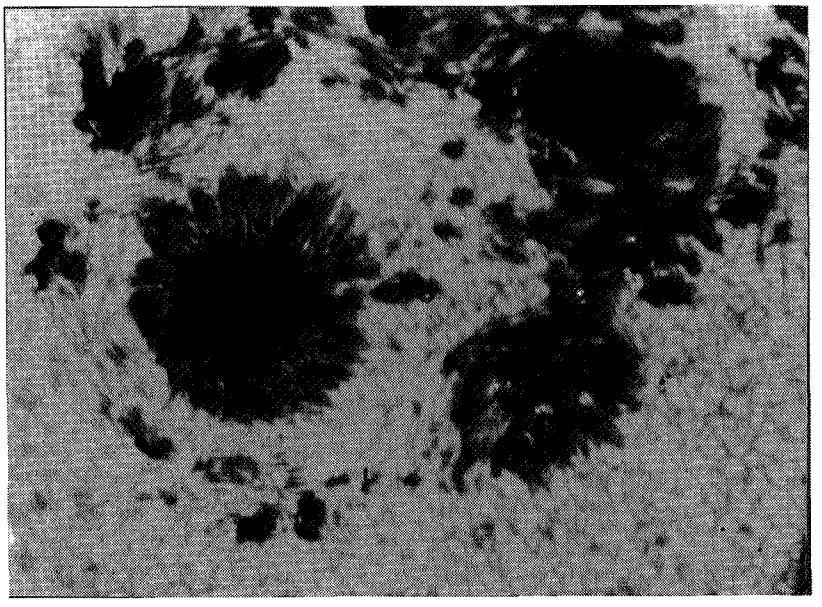
solsticio de verano
solsticio estival

That point on the ecliptic at which its distance from the celestial equator is greatest in suc direction as to make the Sun appear highest in the northern hemisphere. Occurs about June 22nd.

sunspot

mancha solar

A relatively dark area on the surface of the Sun, consisting of a dark central umbra surrounded by a penumbra which is intermediate in brightness between the umbra and the surrounding photosphere. Sunspots usually occur in pairs with opposite magnetic polarities. They have lifetimes ranging from a few days to several months. Their occurrence exhibits an approximately eleven year cycle.



sunspot cycle

ciclo de manchas solares

A cycle with an average length of 11.1 years, in the number and area of sunspots; as given by the relative sunspot number. This number rises from a minimum of 0 to 10 to a maximum of 50 to 140 about four years later, and then declines more slowly.

sun-synchronous orbit

órbita solar sincrónica
órbita heliosincrona

An orbit, typically between 80° and 100° inclination, wherein the ascending node occurs at a specified local Sun time.

super high frequency

frecuencia superalta

Radio frequencies in the band from 3 gigahertz to 30 gigahertz.

supersonic

supersónico (a)

Pertaining to speeds greater than the speed of sound.

synchronous rotation

rotación síncrona
rotación sincrónica

Rotation of a planet or satellite about its axis with the same period as its revolution about the parent body (primary), with the axis of revolution assumed perpendicular to the plane of the orbit. A consequence of this type of rotation is that the planet or satellite always presents the same side or face to the parent body.

synchronous satellite

satélite síncrono
satélite sincrónico

A satellite orbiting its primary at such an altitude that it revolves about the primary at the same angular velocity as the primary rotates on its axis, hence seeming to remain fixed in longitude when viewed from the primary.

synchrotron radiation

radiación sincrotron
radiación sincrotrónica
radiación cincrotón

Electromagnetic radiation generated by the acceleration of charged relativistic particles, usually electrons, in a magnetic field.

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tektite

A small glassy body containing no crystals and bearing no antecedent relation to the geological formation in which it occurs, probably of meteoric origin.

tektita
tectita

telemetry

The science of measuring a quantity, or quantities, transmitting the measured values to a distant station and there, interpreting, indicating or recording the quantities measured.

telemetría
telemedida

telescope

An optical, or radio, instrument used to observe celestial objects.

telescopio

temperature

A measure of the average energy of motion of the molecules of a substance.

temperatura

tera

A prefix meaning multiplied by 10^{12}. Symbolized by "T".

tera

terminator

The line separating illuminated and dark portions of a nonluminous body, as the Moon.

terminador
límite de iluminación
línea de sombras

terrestrial

Pertaining to the Earth.

terrestre

thermal blanket

An insulating cover for use over portions of a spacecraft to minimize the exchange of thermal energy.

aislamiento térmico

thermal louvres — persianas térmicas

Shutters which are operable automatically or on command, to control the flow of thermal energy from selected portions of a spacecraft.

thermal radiation — radiación térmica

The electromagnetic radiation emitted by a hot black body, such as the filament of a lamp.

thermodynamic — termodinámico

Pertaining to the flow of heat or to thermodynamics.

thermodynamics — termodinámica

The study of the relationship between heat and mechanical energy.

thermometer — termómetro

An instrument used to measure the expansion and contraction of a substance due to changes in the motion of molecules.

thermonuclear — termonuclear

Pertaining to nuclear reaction that is triggered by particles of high thermal energy.

thermosphere — termósfera

The region of the atmosphere, above the mnesosphere, in which there is strong heating and increasing temperature. It extends roughly from an altitude of 90 kilometers to 600 kilometers.

thrust

empuje
impulso

1. The pushing force developed by an aircraft engine or rocket engine.

2. Specifically, in rocketry, the product of propellant mass flow rate and exhaust velocity relative to the vehicle.

tidal drag

arrastre de marea
friccion por marea
freno debido a las mareas

The damping of a planet or satellite's rotation produced by frictional losses associated with tides raised either in the solid body of the planet or satellite, or in the seas upon its surface.

topside sounder

cohete sonda

A satellite designed to measure the ion concentration in the ionosphere from above the ionosphere.

tore or torus

toro
toroide

In geometry, the surface described by a conic section, especially a circle, rotating about a straight line in its own plane, or the solid of revolution enclosed by such a surface.

torque

momento de torsión
torque
par de giro

A force or combination of forces that tends to produce a rotating or twisting motion.

tracking

seguimiento
rastreo

The process of following the movement of a satellite or rocket by radar, radio or photographic observations.

trajectory

trayectoria

In general, the path traced by any body moving as the result of externally applied forces.

transfer orbit — órbita de transferencia

In interplanetary travel, an eliptical trajectory tangent to the orbits of both the departure planet and the target planet.

transit — tránsito

1. The passage of a celestial body across a celestial meridian; usually called "Meridian transit".

2. The apparent passage of a celestial body across the face of another celestial body or across any point, area or line.

translunar — translunar

Of, or pertaining to, space outside the Moon's orbit about the Earth.

transmitter — emisora
transmisor

A device for transmitting electromagnetic propagation signals (usually radio signals).

transonic speed — velocidad transónica

Of or pertaining to speeds which are transitional between subsonic and supersonic.

transponder — repetidor
transpondedor
respondedor

A combined transmitter and receiver whose function it is to transmit signals automatically when triggered by an interogating signal.

tropopause — tropopausa

The region at the top of the troposphere.

troposphere — tropósfera

That portion of the Atmosphere from the Earth's surface to the tropopause, that is, the lowest 10 to 20 kms of the atmosphere.The troposphere is charcterized by decreasing temperature with height, appreciable vertical wind motion, appreciable water vapor content and weather.

true anomaly — anomalía verdadera

In an orbit, the angle at the focus containing the primary body between the direction of perifocus and the radius vector of the satellite. (See "Orbit" diagram).

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ullage — merma

The amount that a container, such as a fuel tank, lacks of being full.

ultra high frequency — frecuencia ultra alta

Radio frequencies in the band from 300 megahertz to 3 gigahertz.

ultrasonic — ultrasónico (a)

Of, or pertaining to, frequencies above those that affect the human ear, i.e. more than 20,000 Hertz.

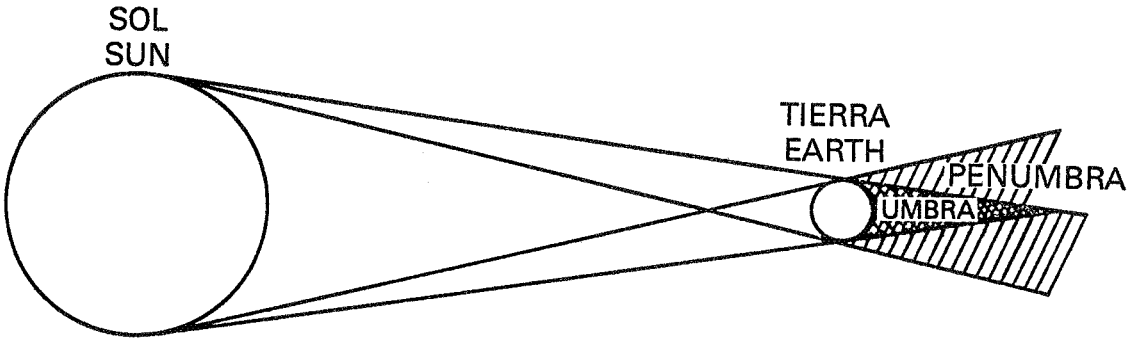
ultraviolet radiation — radiación ultravioleta

Electromagnetic radiation shorter in wavelength than visible radiation but longer tha X-rays. Roughly, radiation in wavelength interval between 10 and 4000 angstroms.

umbra — umbra
sombra
parte en sombra

1. The dark cone of shadow cast by a planet or a satellite on the side opposite the Sun, in the limits of which the entire Sun is invisible.

2. The dark, central portion of a sun spot.



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vacuum

Theoretically, a portion or region of space entirely empty of matter.

Loosely, a degree of diminution of atmospheric pressure below the normal.

vacío

Van Allen belt (Van Allen radiation belt)

The zone of high intensity radiation surrounding the Earth, beginning at altitudes of approximately 1000 kilometers.

cinturon (de radiación) de Van Allen
faja de Van Allen

vernal equinox

The ascending node of the Earth's orbit about the Sun.

equinoccio vernal
equinoccio de primavera

Vernier scale

A movable, graduated, scale used for the measuring of fractional units of a primary scale.

escala Vernier
nonius Vernier
Vernier

vertical

The direction in which the force of gravity acts.

vertical

very high frequency

Radio frequencies in the band from 30 megahertz to 300 megahertz.

frecuencia muy alta

very low frequency

Radio frequencies in the band from 3 kilohertz to 30 kilohertz.

frecuencia muy baja

visible radiation

radiación visible

Electromagntic radiation lying within the wavelength interval in which the human eye is sensitive, which is approximately 0.4 to 0.7 micron (4000 to 7000 angstroms.) This portion of the electromagnetic spectrum is bounded on the short wavelength side by the ultraviolet radiation and on the long wavelength side by the infrared radiation.

wavelength

longitud de onda

The distance in the line of advance of a wave from any one point to the next point at which at the same instant there is the same phase.

weightlessness

ingravidez
falta de gravedad
falta de peso

A condition in which no acceleration, whether of gravity or some other force, can be detected by an observer within the system in question.

white dwarf

enana blanca

A star of high surface temperature and very low intrinsic brightness, usually with a mass comparable with that of the Sun, but so small as to have enormous average density.

winter solstice

solsticio de invierno
solsticio invernal

That point on the ecliptic at which its distance from the celestial equator is greatest in suc direction as to make the Sun appear highest in the southern hemisphere. Occurs about December 22nd.

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X-ray rayos X

Electromagnetic radiation of very short wavelengths, lying within the interval of 0.1 to 100 angstroms.

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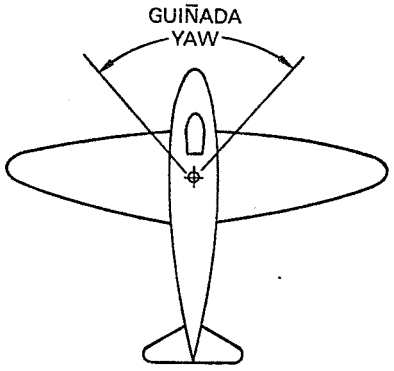
yaw

guiñada
oscilación
desviación

1. The lateral rotational or oscillatory movement of a body about a transverse axis, which causes the front to be right or left with respect to the rear.

2. The amount of this movement, i.e. the angle of yaw.



yaw axis

eje de guiñada
eje vertical
eje de desviación

The line through the center of gravity of a body about which the yaw motion occurs.

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zenith

cenit
zenit

That point of the celestial sphere vertically overhead.

zero "g"

gravedad nula
cero "g"

Weightlessness, agravic

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16. Abstract

A need was identified for a reference to provide translations into Spanish of terms used in space exploration. A search for such a resource bore no fruit, so the author compiled his own glossary and obtained the translations. It was printed as a Goddard Space Flight Center X Document (X-602-82-11).

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